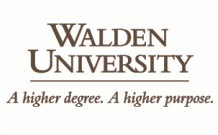

2020

Culturally Sensitive Parenting Counseling, Corporal Punishment, and Early Childhood Development in Grenada

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This is to certify that the doctoral dissertation by

Lauren Elizabeth Anne Orlando

has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

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Walden University
2020

Abstract

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by

Lauren Elizabeth Anne Orlando

MSc, University College Dublin, 2010

BA, DePaul University, 2007

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Public Health

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February 2020

Abstract

Many children under 5 years of age in developing countries and regions, including the Caribbean, will not fulfill their developmental potential due to being exposed to risks such as poverty, poor health, violence, and unstimulating home environments. Adverse childhood experiences, which include corporal punishment, may increase children's risk for poor adult health and disease outcomes. The purpose of this quasi-experimental, quantitative study, grounded in the social ecological model, was to examine the use of corporal punishment and the impact of parental exposure to culturally sensitive parenting counseling (CSPC) provided to families with children aged 0 to 3 years old enrolled in the Roving Caregiver Programme (RCP) in Grenada. This study's secondary data were from the Saving Brains Grenada (SBG) (2015-2016) data set which included pre- and post-test data from the 596 parents enrolled in the RCP. Data were analyzed using chi-square and binomial regression. The results of the study indicated no statistically significant associations between parental educational attainment, parental marital status, and parental monthly income and the use of corporal punishment in the home environment, which contradicted the existing literature. However, the results indicated statistically significant associations between parental age ($p = 0.007$) and parental enrollment in CSPC ($p = 0.000$) with the use of corporal punishment. This study showcased that short-term CSPC made an impact in reducing the use of corporal punishment in the SBG intervention group. Implications for positive social change include promotion of CSPC at multiple levels of society as a healthier and safer method of child-rearing at a sustainable level within the West Indian family context in Grenada.

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Dedication

This dissertation is dedicated to the tri-island state of Grenada, Carriacou, and Petit Martinique and all the parents and caregivers trying their best each and every day to provide a better life for their children. This dissertation is dedicated to the social justice advocates and community development champions who go against the grain for the betterment and enhancement of their people, their culture, and their country.

Without the United States Peace Corps and the Government of Grenada, I would not have had the life-changing experience I did all those years ago, which has transformed my life and sculpted my passion for human rights and public health. My past country director, Mrs. Franka Bernardine, always reminded me that one person can make a lasting impact on an individual and a community as the true meaning of life is to plant trees, under whose shade you do not expect to sit.

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Throughout my entire journey of coursework and the dissertation process, I received an overwhelming amount of support and guidance. My parents have spent their entire lives dedicated to educating young minds and ensuring that education was a right, not a privilege. Their constant belief that education acts as the gateway to opportunities and choices has guided my drive to attain this degree. I would not be where I am without their unconditional love, support, and encouragement.

To my partner in life, Alvar, I share this accomplishment with you as your everlasting patience, understanding, and strength gave me the endurance to reach this point. To my loving siblings, Noël, Joe, and Jim, I have never felt alone due to the fact that I know no matter what this life throws at us, we have each other and that is everything. From start to finish, Arlette Herry, has been on this PhD rollercoaster with me, and her unwavering support has given me the confidence needed to continue. There are too many family and friends to mention who have impacted my life, but know that you are appreciated and loved.

An immense gratitude is due to all my fellow Saving Brains Grenada, Roving Caregiver, ministerial, and nongovernmental organization colleagues who share my passion for this work and act as gatekeepers for a safer, healthier Grenada and overall global community. My mentor, Dr. Barbara Landon, and Dr. Randall Waechter took me under their wings and provided a platform to explore and enhance early childhood development at the grass-root level.

Last but not least, I humbly thank my committee members, Dr. Chinaro Kennedy, Dr. Larissa Estes, Dr. Muazzam Nasrullah and Dr. W. Sumner Davis, for your expertise, supervision, and leadership. I am forever grateful for all your wisdom and contributions that resulted in this dissertation reaching its final stage. My learning experience at Walden University has been wonderful, and its mission of positive social change is truly inspirational in order to foster healthy behavior change in the community.

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Chapter 1: Introduction to the Study

Introduction

The first 1,000 days of life roughly encompasses conception to a child's second birthday, and this time period is considered to be one of the most optimal periods for health, growth, learning, and neurodevelopment in one's entire lifespan (Murray et al., 2018; Schwarzenberg & Georgieff, 2018). Healthy neurodevelopment is grounded in factors such as interpersonal and family attributes, socioeconomic status (SES), and nutrition on a continuous basis (Bick & Nelson, 2016). Other factors such as "a supportive environment, an attached primary caregiver, and a healthy diet" allow for infants and young children's brains to thrive whereas research shows "toxic stress, emotional deprivation, and infection or inflammation" contribute to poor brain development (Schwarzenberg & Georgieff, 2018, p. 2). Recent studies from the United Nations Children's Fund (UNICEF; 2019) established that exposure to frequent or elongated periods of stress, such as physical abuse or neglect, may trigger in young children a biological response sensor that produces toxic stress and reduces brain development. In comparison, early parental care based in responsive and warm caregiving and the provision of proper levels of stimulation has been found to directly and beneficially impact a child's future behavioral, intellectual, and emotional abilities (National Scientific Council on the Developing Child, 2011; Vu, Hustedt, Pinder, & Han, 2015; Yates, Obradović, & Egeland, 2010).

Approximately 250 million children under 5 years of age in developing countries, including the Caribbean, will not fulfill their development (cognitive, motor, and social-

emotional) potential due to being exposed to risks such as malnutrition, poverty, poor health, violence, and unstimulating home environments (Black et al., 2017; Frongillo, Kulkarni, Basnet, & de Castro, 2017). One risk is the use of corporal punishment on children. Research shows that, across cultures, physically punished children are more likely to possess fewer social skills, higher rates of physical and mental injury and illness in both childhood and adulthood, lower occupational and academic achievement, and increased criminal and/or violent behavior compared to same-age peers who were not physically disciplined (Ferguson, 2013; Gershoff, 2002; Gershoff & Grogan-Taylor, 2016; Gershoff, Sattler, & Ansari, 2018). Increasing neuroscientific literature shows that child maltreatment and harsh physical discipline are associated with reduced gray matter in pivotal areas of the brains that are responsible for problem solving, empathy, learning, and pattern recognition (Gold et al., 2016; Lim, Radua, & Rubia, 2014; Teicher, Samson, Anderson, & Ohashi, 2016).

The concept of adverse childhood experiences (ACEs), developed from the original work of Felitti et al. (1998), is highly significant to the public health dilemma of corporal punishment use in Grenada and the Caribbean as it links childhood exposure to emotional abuse, physical abuse, sexual abuse, and unhealthy home environments to behavioral issues and disease in adulthood (Jeremiah, Quinn, & Alexis, 2017). Literature also shows a strong connection between ACEs, especially corporal punishment, with future aggressive behavior in young children (Thompson et al., 2017); delays in cognitive development (Oh et al., 2018); impaired social, emotional, and cognitive functioning and chronic physiological damage (Danese & McEwen, 2012; Pechtel & Pizzagalli, 2011),

and adult mental health impairment and drug and alcohol addiction (Afifi et al., 2017). The effects of ACEs can provide a pathway to long-term psychosocial and medical issues, reduced academic achievement, and lower job productivity, which in turn impacts the next generation within a country (Galobardes, Lynch, & Smith, 2008; Ngure et al., 2014; Schwarzenberg & Georgieff, 2018).

Corporal punishment has been a well-established Caribbean parenting discipline method passed on to subsequent generations (Bailey et al., 2014), and as a result, it has cultivated an unsafe and unhealthy home environment dynamic of child maltreatment that can directly predict health outcomes in the future (Hughes et al., 2017). For children from low- or middle-income countries (LMICs) facing ACEs, a lack of public health interventions targeting early childhood development could result in these children earning one quarter less income in their adult years, for instance (UNICEF, 2019). In order to combat these ACEs involving home violence and child maltreatment, there needs to be a public health shift at each level (individual, family, community, organizational, and policy) to ensure the United Nations' Sustainable Development Goals (SDGs) are accomplished at the national and regional level (Hughes et al., 2017).

The goal of this study was to expand the limited body of knowledge regarding (a) the impact Grenadian parental engagement in culturally sensitive parenting counseling has on parents' usage of corporal punishment in the home environment and (b) the implications of corporal punishment usage for neurodevelopment of Grenadian children under 3 years of age. This study extends the body of knowledge on the association of parental educational attainment, marital status, and monthly income of Grenadian parents

with the usage of corporal punishment in the home environment. In addition, this research aids in the understanding of how the history of colonial rule and violence in the Caribbean affects generational childrearing in the West Indian family context. This knowledge may assist community health workers to promote culturally sensitive parenting counseling at multiple levels of society and to integrate a healthier and safer method of childrearing at a sustainable level for families with young children in Grenada.

Background

ACEs literature provides a link between childhood exposure to violence and neglect by highlighting that children from low SES families are even more at risk for poor adult health and disease outcomes (Taylor-Robinson, Straatmann, & Whitehead, 2018). Variables related to an unstable home environment such as low parental educational levels, parental unemployment, single parenthood, and child poverty all contribute to ACEs and low early childhood development (Hughes et al., 2017; Taylor-Robinson et al., 2018). Parental educational attainment, especially maternal, continues to be one of the leading predictors of children's early learning and academic performance in the future (Bradley & Corwyn, 2002; Duncan & Murnane, 2011; Elliott & Bachman, 2018; Magnuson, 2007). In Afro-Caribbean households, the main types of family structures that influence childrearing include (a) marital union, (b) common-law union, (c) visiting union, and (d) single parent family (Evans & Davies, 1996). Female head of households continue to remain the poorest around the world (Dolan, 2004; Katapa, 2006; Zhan & Sherraden, 2003) with single mother households as high as 50% in the Caribbean

(Archer, 2008). According to the World Bank (2018), Grenada has a per capita gross domestic product of US$9,469.22 per annum which averages to US$790.00 per month.

Along with parental educational attainment, parental income serves as one of the most significant predictors of household SES and early childhood development outcomes (Berger, Paxson, & Waldfogel, 2009). Berger et al. (2009) found, for instance, that 3-year-old children from poorer families are more likely to have mothers who are depressed, stressed, unresponsive, and harsh. Lopez Boo (2016) also emphasized the strong correlation between children from low SES families and delays in cognitive and sociobehavioral development especially in developing countries.

Research continues to indicate the importance of the family unit as the first and most lasting instance of socialization for children (Chung et al., 2009; Kemme, Hanslmaier, & Pfeiffer, 2014). Both Kemme et al. (2014) and Chung et al. (2009) described how parents' upbringing and exposure to harsh physical discipline methods drastically influence their attitudes and behaviors towards using corporal punishment on their own children. Without exposure to an opposing way of childrearing, parents tend to follow the practices that were enacted on them as children (Bornstein, 2015). Roopnarine and Jin (2016) described how psycho-cultural beliefs on child-rearing, parenting styles, and overall childhood outcomes among Caribbean parents are rooted in the historical legacy of forced colonization, indentured servitude, and slavery. This colonial experience molded Caribbean perceptions of cognitive and sociocultural aspects of early child development. Cultural norms set from a very early age and childhood experiences

of corporal punishment continue to be the strongest predictors of parents' use of corporal punishment (Fréchette & Romano, 2017).

Some researchers have examined the cultural experience of corporal punishment and prevalence of low SES in the Caribbean. Research shows, for instance, how positive involvement of parents, especially from low SES, in interactive and stimulating activities such as playing, singing, and reading is associated with cognitive performance, language, and socioemotional development in preparation for preschool education (Frongillo et al., 2017; Yousafzai et al., 2014). This type of parent-child connection and stimulation is not intrinsically known or practiced but rather learned; this is especially true for parents who never witnessed or experienced this type of interaction. Hence, there is a need for para-professionals and community health workers integrated at the home and community level to support underdeveloped communities with a limited social welfare system (Linsk et al., 2010; Muriuki & Moss, 2016). This train-the-trainer model, using parents and their own children, includes family-centered and child-focused ongoing assessments, capacity building, and quality improvement care and services (Linsk et al., 2010; Muriuki & Moss, 2016).

It is unfair and unethical to expect different results in childrearing and early childhood development from parents who do not possess the knowledge and skills for positive behavior change. It is well established that ACEs, low SES, and corporal punishment use have destructive long-term health and financial outcomes on adults (Hughes et al., 2017; Taylor-Robinson, 2018). Therefore, public health preventative initiatives that enhance early childhood development and social determinants of health

are not only cost-effective but a predictor of how a country values the health, safety, and well-being of its citizens (Chittleborough, Searle, Smithers, Brinkman, & Lynch, 2016; Lanier, Maguire-Jack, Lombardi, Frey, & Rose, 2018; Metzler, Merrick, Klevens, Ports, & Ford, 2017). These initiatives may provide vital education and resources to parents to use in caring for their children, which may benefit families and society at large.

Problem Statement

Children raised in developing countries continue to be at a disadvantage as they experience discrepancies in early childhood development (ECD) outcomes such as health, nutrition, environmental stimulation, fine and gross motor skills, and cognitive and socioemotional development as opposed to children raised in more developed countries (Grantham-McGregor, Fernald, Kagawa, & Walker, 2014; Rao, Sun, Chen, & Ip, 2017). Research continues to confirm how the SES of the family is a critical component to predict ECD outcomes especially from low socioeconomic households, neighborhoods, communities, or countries (Kao, Nayak, Doan, & Tarullo, 2018; Letourneau, Duffett-Leger, Levac, Watson, & Young-Morris, 2011; Lopez Boo, 2016; Webb et al., 2017). The SES of children encompasses measures such as parental educational attainment, parental employment status, parental marital status, and household income (Erola, Jalonen, & Lehti, 2016; Letourneau et al., 2011). In the Latin America and Caribbean region, one out of five citizens live in a state of chronic poverty, both in urban and rural communities, and have limited exposure for economic growth or income opportunities (Vakis, Rigolini, & Lucchetti, 2015). As of 2016, this region continues to rise in inequality in access to health and social services, income distribution,

and pensions as the wealthiest quintile prospers with “45% of total household income” whereas the poorest settle for a dire 6% (Economic Commission for Latin American and the Caribbean, 2018, p. 36). This discrepancy poses a major public health dilemma as Caribbean children’s fate of poverty and inequality is determined at birth; being born into a poorer family most likely means that a child will have parents with lower levels of educational attainment, income, and less prestigious occupations (Vegas et al., 2010).

Even though decades of research asserts parents’ use of corporal punishment is ineffective at correcting or improving child behavior and puts children at risk for detrimental cognitive and behavioral outcomes, parents around the world continue to use corporal punishment as a discipline method (Gershoff, Lee, & Durrant, 2017). In a progress report completed by the Global Initiative to End All Corporal Punishment Against Children (2012) on corporal punishment use in the Caribbean, researchers reported that 89% of children in Jamaica, 86% of children in Suriname, 77% of children in Trinidad and Tobago, and 70% of children in Belize experienced physical punishment in the home setting (UNICEF, 2010). Data from a UNICEF Office for the Eastern Caribbean Area (2017a) situational analysis of children in Grenada also stressed the overwhelming popularity of corporal punishment as the main child discipline method; data were obtained from face-to-face interviews with 600 men and women.

In the Caribbean, harsh physical discipline can be directly linked back to the region’s colonial history as the majority of African-descended residents were violently and forcibly transported to erect and sustain plantation societies for European colonial powers (Landon, Waechter, Wolfe, & Orlando, 2017). This violent history and context

of subjugation and domination directly affected the development of Caribbean culture, family, home environment, and society (Escayg, 2014; Roopnarine & Jin, 2016). The Caribbean is commonly statistically linked with Latin America due to similar lack of resources and research capacity (Tullouch-Reid et al., 2018) on poverty, violence, and child-rearing, and, yet, this region continues to be the most violent in the world mainly due to homicide, intimate partner violence, and child maltreatment (Ardila, Lugo-Palacios, & Vargas-Palacios, 2015). In reviewing the literature, I found no evidence-based literature on the effects of corporal punishment, which is widely accepted and used in Grenadian home and school settings (Bailey, Robinson, & Coore-Desai, 2014), on Grenadian children's neurodevelopment and overall health and well-being. In addition, I found no evidence-based literature in Grenada and a very limited amount in the entire Caribbean region on the impact of culturally sensitive parenting counseling, involving SES, and how culturally sensitive parenting counseling can increase ECD outcomes, one of the main SDGs (UNICEF, 2018) for this target population.

Purpose of the Study

The purpose of this quantitative study was to examine the impact of parental exposure to culturally sensitive parenting counseling provided to families with young children aged 0 to 3 years old enrolled in the Roving Caregiver Programme (RCP) in Grenada. This study is critical to change Grenadian parents' perceptions of the effectiveness of corporal punishment, which has been an engrained cultural practice since the advent of slavery and colonialism in the country and region (Bailey, Robinson, & Coore-Desai, 2014). I examined the associations between parental exposure to culturally

sensitive parenting counseling (measured using the independent variables of parental educational attainment, parental marital status, parental monthly income, and enrollment in culturally sensitive parenting counseling) and use of corporal punishment as the dependent variable. Specifically, I investigated how parental involvement in culturally sensitive parenting counseling can reduce parents' use of corporal punishment in the home setting. Evidence from this study may provide information to public health researchers and community health workers on the role of culturally sensitive parenting counseling and its implications for how Grenadian parents discipline their children. This information may aid in the development of community-based interventions by public health researchers and community health workers in Grenada and the Caribbean region. Findings may also provide insight on how successful integration of these interventions in each layer of society could enhance sustainable positive behavior and social change.

Research Questions and Hypotheses

The study's four research questions (RQs) and corresponding hypotheses were as follows:

RQ1: Is there an association between parental educational attainment and the use of corporal punishment in the home environment?

H_o1: There is no association between parental educational attainment and the use of corporal punishment in the home environment.

H_a1: There is an association between parental educational attainment and the use of corporal punishment in the home environment.

RQ2: Is there an association between parental marital status and the use of corporal punishment in the home environment?

H_o2: There is no association between parental marital status and the use of corporal punishment in the home environment.

H_a2: There is an association between parental marital status and the use of corporal punishment in the home environment.

RQ3: Is there an association between parental monthly income and the use of corporal punishment in the home environment?

H_o3: There is no association between parental monthly income and the use of corporal punishment in the home environment.

H_a3: There is an association between parental monthly income and the use of corporal punishment in the home environment.

RQ4: Did the parental enrollment in the culturally sensitive parenting counseling impact the use of corporal punishment in the home environment?

H_o4: There is no impact in the use of corporal punishment in the home environment after enrollment in the culturally sensitive parenting counseling.

H_a4: There is an impact in the use of corporal punishment in the home environment after enrollment in the culturally sensitive parenting counseling.

Theoretical Framework

The theoretical framework for this study was the social ecological model (SEM), which recognizes the interlaced relationship between individuals and the environment around them on multiple levels. Bronfenbrenner (1979)'s ecological systems theory was

the pioneer for this theory as it highlighted on how a child and his or her environment influence one another for overall health and development. Bronfenbrenner (1979) defined these subenvironments into five systems: microsystem, mesosystem, exosystem, macrosystem, and chronosystem. McLeroy, Bibeau, Steckler, & Glanz (1988) altered the ecological systems theory to the ecological model of health behaviors which promoted that health behaviors have multiple influences which interact at different levels (i.e. individual, relationship, community, societal).

Stokols (1992, 1996) elevated the ecological model of health behaviors into the social ecological model (SEM) of health promotion and showcased how an environment's social, physical and cultural aspects have both direct and indirect effects on health (Golden & Earp, 2012). The SEM was applied as it provides structure for comprehending how multiple levels of a society effect personal and environmental factors which determine behaviors in health promotion in public health (Centers of Disease Control and Prevention, 2018). Ecological models are common in public health as they explain if health promotion to be effective and sustainable, interventions must integrate all individual and environmental factors using a community health needs assessment (Brown, 2015).

In the Grenadian context with an early childhood developmental engagement to low socioeconomic families, the SEM offers a logical and transparent linkage as to how health promotion must address family, community, and societal attitudes and behaviors to make a positive social change on the individual. Generational poverty and childrearing practices stemmed from colonial oppression does not change with one assessment, but

the SEM allows for effective assessment, planning, implementation, evaluation, and transdisciplinary collaboration for health promotion and behavior change (Wold & Mittelmark, 2018). In order for the SEM to be effective in the Grenadian context, it is essential to recognize that changing individual-level behaviors and producing new social norms must be done strategically at the household, community, organizational, and policy levels (UNICEF, 2016) which is discussed in further detail in chapter two.

In this study, the various elements of the SEM were used as the foundation to guide the development of the RQs, analysis of the secondary data, and interpretation of the results. To operationalize these constructs, the "Attitudes toward Corporal Punishment" (ACP) assessment was used to examine the attitudes and practice of corporal punishment use in the home environment. The SEM individual characteristics are crucial to this public health dilemma as this level is influenced by behaviors, attitudes, economic status, financial resources, literacy, relationship status, and a multitude of other sociodemographic variables (UNICEF, 2016). The interpersonal level is influenced by both formal and informal social support systems in the form of family, friends, neighbors, cultural norms and traditions (Salihu, Wilson, King, Marty, & Whiteman, 2015). The community level expands as relationships are defined among organizations and informal boundaries such as build environments, leaders in the community, transportation, local businesses, and village led groups (UNCIEF, 2016). The organizational level enforces protocol and logistics as to how community health workers, non-governmental organizations, and ministerial efforts will be provided to an individual or community (Salihu et al., 2015). Lastly, the policy level provides guidance on national, regional, and

international laws, policies, and resources for community-based initiatives targeting families with young children (UNICEF, 2016). In small developing island nations like Grenada, these SEM levels can overlap as well as obstruct one another due to strong cultural social norms and stigmas, lack of educational awareness, lack of resources, and lack of buy-in of participants at each level (Kaufman, Cornish, Zimmerman, & Johnson, 2015).

Nature of the Study

The nature of this study was a quasi-experimental, pre-post design using secondary data (Cook & Campbell, 1979). Secondary data from the ACP was analyzed using descriptive statistics, chi-square analysis, and binominal regression statistical tests. The data were collected from the Saving Brains Grenada (SBG) research team as their target population included families with at least one child, under the age of three years old, enrolled in the RCP in Grenada. Data was collected from all six parishes in Grenada for a total of approximately 600 families. The independent variables of parental educational attainment, parental marital status, and parental monthly income created a foundation for illustrating what SES represents for these families. In this study, it was essential to use the families enrolled in the RCP as these families have already self-selected to have community-based public health workers come into their home to provide socio-emotional, motor, and cognitive developmental skills for their children under the age of three years old (Saving Brains, 2015). This provided insight for researchers as these parents have at least minimal help seeking behaviors by allowing various level of

societal support into their home and have contact with their children (Ridings, Beasley, & Silovsky, 2017).

Definitions

Adverse childhood experiences: Inconsistent, traumatic, stressful, or neglectful social events or occurrences "experienced by fetuses, infants, children, or adolescents" (Compton & Shim, 2015, p. 48).

Child maltreatment: Any form of abuse or neglect which occurs to a child under the age of 18 by a parent, caregiver, or adult figure (World Health Organization, 2016).

Corporal punishment: Harsh physical punishment imposed to cause persons, often children, a great amount of pain as a discipline method to correct misbehavior (Bassam, Marianne, Rabbaa, & Gerbaka, 2018; Straus, 2001).

Culturally sensitive parenting counseling: In this study, a parenting intervention rooted in self-regulation and parent-child connection specifically designed for the Grenadian context.

Home environment: Conditions and opportunities for safety, learning, and play for a child's survival and development (UNICEF, 2017).

Parental educational attainment: The highest level of formal education the primary caregiver in the household has successfully completed.

Parental marital status: The type of marital status of the primary caregiver in the household.

Parental monthly income: The monetary amount of income in Eastern Caribbean dollars brought into the household by the primary caregiver on a monthly basis.

Assumptions

A fundamental assumption in this study was that corporal punishment, especially used on children under the age of three years old, is a form of child maltreatment which has drastic negative implications for ECD especially neurodevelopment (UNICEF, 2019). The use of the SEM as the theoretical framework in this study also led to multiple assumptions. First, the majority of head of households in this study are single females and have a lower monthly income than married women or women cohabitating with a partner. Second, regular exposure to culturally sensitive parenting counseling impacted the parent-child interaction and connection which in turn influences the child's neurodevelopment. Third, it is assumed that research participants self-reported accurate data without feeling obligated to skew their questionnaire answers. This would ensure the data collection assessments and parameters – including sociodemographic background questions and the ACP are reliable and valid tools for secondary data analysis for this target population.

Scope and Delimitations

This study was constructed to investigate if there was an association between the use of corporal punishment in the home environment and parental sociodemographic variables, parental enrollment in culturally sensitive parenting counseling, and neurodevelopment levels in Grenadian children under the age of three years old enrolled in the RCP. This study was limited to the six parishes within the island of Grenada and did not include any participants from the sister isles of Carriacou and Petit Martinique. Although there have been many studies in developed countries on the effects of corporal

punishment in the home environment, none of these studies I am aware of specifically examine Grenada as a case study and its integration of community-based culturally sensitive parental counseling at multiple levels of society. Potential generalizability learned from this study is the dire need for further research in developing countries on the effects of corporal punishment on ECD and the role culture and sociodemographic variables play in public health behavior change educational awareness in similar populations.

Limitations

This study included a number of limitations specifically regarding the methodology, scope and causality. I used secondary data gathered by SBG researchers, and therefore, the data set was not originally collected to answer this study's RQs. Missing data in secondary data sets are a common occurrence that can be a result of misclassification in data entry, an imperfect data collection instrument, and failure to capture pre- and postdata questionnaire and assessment collection from all participants (Pampaka, Hutcheson, & Williams, 2016). Due to the nature of the study, some of the missing data was due to the children enrolled in the RCP aging out by the time the post-data collection occurred. The other main limitation was parental availability to complete the surveys due to changing work schedules and personal commitments outside of the home while researchers were available for data collection. Lastly, this study specifically focused on families with children under three years of age enrolled in the RCP thus the findings of this study may not be representative of all levels of socioeconomic families in Grenada.

Significance

The significance of this study was in its examination of whether exposure to culturally sensitive parenting counseling helped to decrease the rate of corporal punishment use in Grenadian homes, and whether this in turn improved cognitive development in young children. Corporal punishment is well documented as a violation of human rights and has become a significant public health issue in many developing nations (MacMillan & Mikton, 2017; Lansford et al., 2014; McLean, 2014; Gershoff, 2013; Global Initiative to End All Corporal Punishment Against Children, 2012). Despite this, culture normativeness (Lansford et al., 2015; Lansford et al., 2005) and limited alternative parenting discipline methods in the Caribbean continues to allow for corporal punishment to be legal and utilized (Kooij et al., 2017; Roopnarine & Jin, 2016; Payne, 1989). As a counter response, the RCP, active in five Caribbean countries including Grenada, uses a community-based child stimulation and parenting program consisting of weekly-based sessions lasting 30-60 minutes with children aged 0-3 years old to low socio-economic families (Ward, Lyew Ayee, & Ashley, 2012).

The RCP when evaluated in 2008 showed a positive impact on children's cognitive development and the parents' surge in alternative forms of discipline (Ward et al., 2012). Ward et al. (2012) recommended this culturally adapted and accepted community-based engagement to be replicated throughout the region to create positive social change by strengthening parenting skills for the development of Caribbean children. This culturally sensitive parenting counseling also offers discussions with parents on normative and non-normative patterns of child development to better educate

the parents on stimulating their child in preparation for preschool and realistic expectations for enhancing cognitive development (Roopnarine, Logie, Davidson, Krishnakumar, & Narine, 2015). This public health study provides social change by implementing culturally relevant and sustainable engagement at each level – individual, family, community, government, and society.

Summary

Corporal punishment is a controversial topic in many cultures as it touches on the fine line between discipline method and child abuse, depending on the severity of force (Afifi, Mota, Sareen, & MacMillan, 2017). In Grenada, corporal punishment is legal within the school, penial, and home settings with limited practiced alternative types of discipline methods. Before this SBG initiative, there were not any health promotion behavior change models done in Grenada on the public health issue of the effect of corporal punishment on ECD. This topic was not prevalent in public debate as most Grenadians and West Indians regularly use corporal punishment with their children as this is the discipline method that was passed down through the generations before them (Smith & Mosby, 2003). For social change to be sustainable, Grenadian parents must make the conscious decision to choose an alternative way to interact with their children instead of it being forced upon them. Self-regulation must be enforced as corporal punishment frequently occurs during times when parents feel overwhelmed, frustrated, and tired (Olson, Lopez-Duran, Lunkenheimer, Chang, & Sameroff, 2011). Behavior change options must be able to illustrate more attractive end-results to entice parents to truly adopt these changes as their own. If these alternative culturally sensitive parenting

counseling strategies focusing on parent-child attachment and self-regulation are accepted and enforced by Grenadians, especially those living in low socio-economic communities, the cycle of violence could be drastically reduced (Sutton & Alvarez, 2016).

In Chapter 2, I will discuss the literature in reference to early childhood developmental outcomes, socioeconomic status, corporal punishment, community health promotion and operationalization of the SEM as the theoretical framework and in similar studies. The next chapter contains a review on ACEs and their significant impact in LMICs with limited support for ECD resources. In addition, a review of corporal punishment will be dissected in the context of the region's history of colonialism which sculpted the Caribbean family unit and the attitudes and behaviors towards childrearing.

Chapter 2: Literature Review

Introduction

Due to poor health and socioeconomic conditions, including ACEs, approximately 250 million children raised in developing countries will not achieve their full developmental potential resulting most likely in exposure to a lifelong trajectory of poverty, violence, and poor health outcomes (Bachmann & Bachmann, 2018; Black et al., 2017, Frongillo et al., 2017). Exposure to ACEs and toxic stress drastically affects how a person responds to threats and executive functioning capabilities (Bachmann & Bachmann, 2018) as well as influences his or her first sexual experience and increases risk for being infected with various types of sexual transmitted infections (Brown, Masho, Perera, Mezuk, & Cohen, 2015), unplanned teenage pregnancy (Anda et al., 2002), mental health and substance abuse issues (Campbell, Walker, & Egede, 2016), and forfeiture of both educational and employment opportunities in the future (Bachmann & Bachmann, 2018; Topitzes, Pate, Berman, & Medina-Kirchner, 2016).

Recent research links corporal punishment and child maltreatment as ACEs and as one of the most important public health concerns relating to poor ECD (Afifi et al., 2017; Fleckman, Taylor, Theall, & Andrinopoulous, 2019; Gershoff & Grogan-Kaylor, 2016). Child maltreatment affects all family members as well as communities and societies, and in some families this becomes an intergenerational cycle of violence with those being maltreated as children much more probable to maltreat and use corporal punishment on their own children (Afifi et al., 2017; Putnam-Hornstein, Cederbaum, King, Eastman, & Trickett, 2015; Widom, Czaja, & DuMont, 2015). Exposure to ACEs,

especially in the years before adolescence, in combination with contact to violence in the home and community as well as low socioeconomic conditions, increases the likelihood these children will be concreted in an "intergenerational pattern of both psychosocial and physiological maladaptations" (Bachmann & Bachmann, 2018, p. 1).

A crucial public health response to this research that is currently manifesting into reality is to put preventative community-based measures in place that address these socioeconomic and health inequalities in real time (McDonell, Ben-Arieh, & Melton, 2015). The ideal is to work with known at-risk communities that have suffered from this intergenerational pattern of violence and child maltreatment before real trauma occurs and to disrupt the current default of child rearing that encompasses what is known or culturally practiced (Jenssens & Rosemberg, 2016). In the Caribbean, corporal punishment is administered in both the home and school settings as a culturally accepted and legal practice solidified by religious teachings and the history of colonialism (Bailey et al., 2014; Watkinson & Rock, 2016). A key demographic for interventions is the 0 to 3 years age group as this is the most pivotal period to create the basis for health outcomes in adolescence and adulthood (Murray et al., 2018). In order to truly implement sustainable positive social change at all levels of society, behavior change health promotion must be culturally sensitive and competent to modify the current mindset and behaviors towards childrearing that have been practiced in the Caribbean for centuries (Roopnarine & Jin, 2016).

In this chapter, I discuss sociodemographic factors such as parental educational attainment, parental marital status, and parental monthly income related to the use of

corporal punishment in the home environment in Grenada and the Caribbean at large. In addition, I explore the validity of culturally sensitive parenting counseling for Grenadian parents with children under the age of 3 years and the research evidence of corporal punishment as an impact variable on the neurodevelopment of these children. This literature review highlights the need for additional studies to be conducted in the Caribbean, especially Grenada, on public health behavior change implementations at the individual and community level on topics such as corporal punishment, child maltreatment, ECD, and ACEs as these are all issues that plague this region and are underdocumented with outdated supporting statistical data (Jeremiah et al., 2017; Kooij et al., 2017; Watkinson & Rock, 2016).

Literature Search Strategy

I used a plethora of databases to obtain relevant peer-reviewed literature to conduct this study. These included CINAHL, ERIC, Google Scholar, MEDLINE, ProQuest Dissertations & Theses Global, PsycINFO, PubMed, SocINDEX, Thoreau Multi-Database, UNICEF, and World Health Organization. The following key words were used during literature searches: *adverse childhood experiences (ACEs)*, *Caribbean*, *child maltreatment*, *childrearing*, *community based*, *corporal punishment*, *culture*, *early childhood development (ECD)*, *Grenada*, *home environment*, *low socioeconomic*, *neurodevelopment*, *parenting*, *physical punishment*, *Roving Caregiver Programme*, *social ecological model (SEM)*, and *sociodemographic.* Peer-reviewed articles published within the past five years (2015-2019) were the focus, but international organization databases were also included for relevant statistics. Since there is limited data and

literature on corporal punishment and public health interventions in Grenada, the search had to be expanded to other Caribbean islands, Latin America, and developed countries like the United States. Some of the articles used for this study are older than 5 years but were critical to this discussion as they were foundational literature as well as the basis for the theoretical framework. The scope of literature reviewed ranged from 1979 to 2019.

Theoretical Foundation

The theoretical framework for this study was the SEM as it emphasizes understanding of the multilayered effects social and environmental factors have on each level of society: individual, interpersonal, community, organizational, and policy (Stokols, 1992; UNICEF, 2016). This model acknowledges that social norms and individual knowledge, attitudes, and behaviors are at the center of a societal system's ability to engage in behavior change and health promotion interventions (Golden, McLeroy, Green, Earp, & Liberman, 2015). A premise of the SEM is that public health issues never initiate due to a singular factor as they tend to be multidimensional and complex by nature—hence, the rationale for intervention strategies at each level (Golden & Earp, 2012; McLeroy et al., 1988). This model originated from Bronfenbrenner's (1979) ecological systems theory, which organized the effects of social relationships on a child's development in five subenvironmental systems: microsystem, mesosystem, exosystem, macrosystem, and chronosystem. A decade later, McLeroy et al. (1998) adjusted this theory to the ecological model of health behaviors by emphasizing how behaviors actually are formed by multiple influences in one's environment (i.e. individual, relationship, community, societal). This public health model altered how

interventions addressed educational awareness to individuals' behaviors towards disease prevention and health promotion (McLeroy et al., 1988).

Stokols (1992, 1996) took this model one step further by developing the SEM of health promotion, which emphasizes interactive characteristics individuals have within themselves, their relationships, and their environment and the direct and indirect effects on their own health (Golden & Earp, 2012). Stokols (1996) recognized the need for a theoretical framework to support the shift in public health from individually focused health promotion programs to more environmentally based programs that concentrated on community-health elements strategically aligned with existing cultural norms and environmental conditions within a society. This theory confronts the typical understanding of an environment by expanding it from simply one's physical surroundings (i.e. air quality, clean water, social climate) to a much broader concept involving a person's emotional, physical, and social well-being and how these factors impact health behaviors (Stokols, 1996).

One of my rationales for selecting the SEM for this study was that its major theoretical proposition assumes that for the field of health promotion multiple levels of influence can occur that are interacting with and reinforcing one another at the same time (Golden & Earp, 2012). Stokols' (1996) acknowledgement of how an environment's health is affected by social, cultural, and physical factors fits perfectly in the discussion of culturally sensitive parenting counseling and the impact of corporal punishment use in the Grenadian home environment context. It allows for sustainable positive social and behavior change to be targeted simultaneously by involving all stakeholders from the

various levels of society. Another rationale for utilizing the SEM is its recognition that culture is a multidimensional entity in Caribbean homes, communities, and societies that is derived from colonial power and control mechanisms (Brissett, 2018); thus, culture must be identified and integrated respectfully in order to enhance family socialization and childrearing practices (Roopnarine & Johnson, 2016). This model has been previously applied to other community-based health promotion public health interventions focusing on parenting, child-rearing, and corporal punishment (Golden & Earp, 2012; Leer & Lopez-Boo, 2018; Matsumoto, Sofronoff, & Sanders, 2009; Röhrs, 2017; UNICEF, 2016;). Matsumoto et al. (2009) proclaimed the SEM to be an extremely effective theoretical framework when executing community-based health promotion with parents as it encompasses both the parent-child interaction and connection as well as social and cultural variables in the broader environmental context. In this study, I used the SEM to demonstrate how deeply integrated corporal punishment is in Grenadian and Caribbean attitudes, behaviors, and social norms and how it should thus be included in the implementation of community-based health promotion and culturally sensitive parenting counseling at all levels of society. Figure 4 provides a visual representation of the SEM used for this study.

Figure 1. The social ecological model. (UNICEF, 2016, p. 1).

Individual Level

At the core of the SEM is the individual level which encompasses characteristics including but not limited to an individual's attitude, behavior, self-efficacy, gender, values, educational level, economic status, literacy, and stima (UNICEF, 2016). These characteristics influence a person's knowledge and ability to engage in behavior change in the form of healthier and safer decision-making choices (Salihu et al., 2015). Parents from a disadvantaged and low socio-economic background tend to have higher rates of support for corporal punishment usage and overall increased emphasis on the value of obedience in relation to those from more affluent and higher socio-economic statuses (Friedson, 2016; Lareau, 2011; Kohn, 1963; Rosier & Corsaro, 1993; Ma, 2016).

At this intrapersonal level, self-efficacy plays a crucial role to assess if the parent believes he or she can make changes to discipling and ultimately, raising his or her child (Ma, 2016; Grogan-Kaylor, Galano, Howell, Miller-Graff, & Graham-Bermann, 2019). If the parent feels the new strategies and skills will not be beneficial or effective, it does not matter how much educational awareness he or she is exposed to if the parent does not believe in the new strategies and the persons implementing the program (Lachman et al., 2017). The individual's knowledge is also important as this factor greatly influences short- and long-term behavior (Salihu et al., 2015; McLeroy, et al., 1988). In the case of most Caribbean families, the intergenerational knowledge of discipling children has been in the form of corporal punishment that has therefore heavily influenced the attitudes and behaviors towards childrearing in the region (Smith & Mosby, 2003; Bailey et al., 2014; Landon et al., 2017; Burke & Sutherland, 2014).

Interpersonal Level

Persons like family members, friends, work colleagues, neighbors, and acquaintances all influence an individual's health behaviors (McLeroy et al., 1988). These social relationships are the persons that an individual spends the most time with and therefore, their opinions, actions, inactions, and social support holds a significant amount of weight as they often have the most direct interaction with the individual (McLeroy et al., 1988; McCormack, Thomas, Lewis, & Rudd, 2017). Especially in small island states like those in the Caribbean, these social networks hold a pivotal role in society as extended family members and neighbors tend to be the watchkeepers of the children in the village and all contribute to social cohesion by instilling respect for elders,

values of obedience, and cultural social norms to the younger generation (Lowe et al., 2014; Foster, 2013; Griffith & Grolnick, 2014).

Special focus on social networking interpersonal ties has expanded public health behavior change interventions and improved the transfer of enhancing health from the individual level to the population at large (Kim et al., 2015). The cascade that interpersonal ties influence the knowledge and behavior over a social network can increase the effectiveness of a public health campaign, especially in low-resource settings with fewer social services (Kim et al., 2015; Ben-Arieh, 2015; Merzel & D'Afflitti, 2003). The functional characteristics of a social network include social norms, social support, social capital, and social cohesion as they all contribute to physical health and health behavior outcomes (Shelton et al., 2019; Berkman & Glass, 2000). There is a definite pressure at the interpersonal level for authoritarian approaches to parenting (Friedson, 2016) as corporal punishment use is considered the most prominent disciple method in the Caribbean and how a child behaves is seen as a direct correlation to the degree of parental control and child obedience within the family structure (Burke & Sutherland, 2014: Bailey et al., 2014; Arnold, 1982; Brown & Johnson, 2008). Harsh parenting and parental control demands in the Caribbean are well integrated at the interpersonal level in an effort to uphold a family's reputation in the community especially since these communities are small in nature which makes it difficult to hide family issues from others (Griffith & Grolnick, 2014; Burke & Sutherland, 2014; Lipps et al., 2012).

Community Level

The concept of community expands from the social support and social network systems of the interpersonal level into a broader structure encompassing organizations and institutions involving the built environment, community stakeholders, transportation, businesses, places of worship, and other mediating structures (McLeroy et al., 1988; UNICEF, 2016; Trickett, 2009). Trickett (2009) linked the necessity to implement multilevel community-based culturally situated public health interventions to social problems, (i.e. HIV/AIDS or teen pregnancy), as they continue to affect several levels of the community context (i.e. individual, family, schools, health clinics). The structural characteristics of a community (i.e. instability and poverty) (Franco, Pottick, & Huang, 2010) in low socioeconomic neighborhoods negatively impacts services, resources, and overall safety which in turn is associated with harsh parenting, corporal punishment, less parental mastery, and lower levels of parental warmth (Franco et al., 2010; Maguire-Jack & Showalter, 2016; Christie-Mizell & Erikson, 2007; Ma, 2016). SEM research at the community level consistently shows a high correlation of child maltreatment in neighborhoods with low socioeconomic levels (Zuravin, 1989; Ben-Arieh, 2015; van Dijken, Stams, & de Winter, 2016) hence the rationale for including parental educational attainment, parental monthly income, and parental marital status in this research study (Sattler & Thomas, 2016; Zhang & Anderson, 2010; Kohn, Leventhal, Dahinten, & McIntosh, 2008; Lee, 2009).

Additional research at the community level emphasizes going beyond the foundation of SES and to investigate if parents feel the available social services in their

neighborhood are useful and of high standard (Ben-Arieh, 2015; van Dijken et al., 2016). Parents that feel well-supported and integrated into their community, as opposed to those living in distressed neighborhoods with a lack of resources, trust, and comradery with their fellow neighbors, are more likely to engage in community events which promote positive parenting behaviors and strategies (Kim & Maguire-Jack, 2016; Ma, 2016). Collective efficacy at the community level impacts the community members' ability to control behavior of children, parents, and groups in the neighborhood and moreover, setting the standard of what is and is not acceptable, specifically referring to corporal punishment and child maltreatment (Ma, Grogan-Kaylor, & Klein, 2018; Ma, 2016; Ma & Grogan-Kaylor, 2017; Ma, Grogan-Kaylor, & Lee, 2018). Even though it is the individual and interpersonal level contextual factors which predict parental engagement in public health interventions, the neighborhood and social support factors within the community level are more influential for the intervention's retention and overall parental active involvement once he or she knows it is accepted by other familiar parents (Hackworth et al., 2018).

Organizational and Social Institution Level

The organizational and social institution level provides operational rules and regulations on how social services and programs will be provided to individuals, families, or groups (UNICEF, 2016; Golden et al., 2015; Golden & Earp, 2012). These decision-making groups, businesses, and entities aim to "produce windows of opportunity to create structural change" by supporting health-promoting policy streams into public debate (Golden et al., 2015, p. 10S). It is at this level that health-promoting attention goes

beyond the specific target population of the parent-child interaction and expands the culturally sensitive educational awareness to institutional leaders, community leaders, government policymakers, and religious leaders (Golden & Earp, 2012; McElfish, Post, & Rowland, 2016). The organizational level involves stakeholders from the governmental ministries as well as non-governmental organizations as both are significant to providing health services to the public and altering environmental change (Carabine & Wilkerson, 2016).

Policy/Enabling Environment Level

The policy/enabling environment level provides structure in the form of legislation, public policy, allocation of resources and reliance on evidence-based polices at the community, parish, national, regional, and international platform (UNCIEF, 2016; Golden et al., 2015; McCormack et al., 2017). In public health, great emphasis is placed on population health and equally on regulations, policies, and laws concerning protection of a community's health on a rights based platform (Cavallera et al., 2019) This level is imperative to ensure that children, who tend to be considered as at-risk, vulnerable populations, are all granted the same rights no matter their geographical location or family socioeconomic background (Lu, Black, & Richter, 2016; Young, 2017). UNICEF's (2018) SDGs provides such aspirations for developing international policies, standards, and mechanisms for children across the globe, particularly spotlighting on ECD and child discipline for the purview of this study. Although this is the overarching layer of the SEM, it is built upon the multiple levels based on attitudes, behaviors, social norms, and cultural practices concerning health practices and behavior.

In this study, the individual level factors involved in culturally sensitive parenting counseling to decrease corporal punishment use in the home environment included the following: parental educational attainment, parental marital status, parental monthly income, socioeconomic status, parental experience of corporal punishment as a child, attitude and behaviors towards corporal punishment, and knowledge of alternative child disciplining methods. Influences on behaviors interact amongst the various SEM levels but to be effective and sustainable, health promotion initiatives ought to be behavior-specific to ensure the most pertinent influences for each level are highlighted (Wood, 2016; Sallis, Owen, & Fisher, 2008). The interpersonal level's factors include the impact that social relationships and social networks in the form of family, friends, neighbors, and coworkers have on an individual's health and decision-making behaviors (McCormack et al., 2017). The community level, especially for the scope of this study, plays a crucial role as this is where culturally sensitive, community-based initiatives are implemented with the support of parents and community health workers with the intention of preventing child maltreatment and ACEs before they can begin in order to break multigenerational exposure of violence (van Dijken et al., 2016; Kim & Maguire-Jack, 2015; Friedson, 2016; Trickett, 2009). The organizational level provides the rules and regulations platform for health promotion activity in the community with the policy level acting as the umbrella offering the legislation and public policy for all the SEM levels and its action and inaction in regard to health promotion and education awareness for environmental and behavior change (Salihu et al., 2015; Golden et al., 2015).

The SEM approach, especially in LMICs, to ECD and violence prevention provides entry into existing platforms and systems by collaborating with all the stakeholders at the various levels of society (Efevbera, McCoy, Wuermli, & Betancourt, 2017). Black et al. (2017) used the SEM to explain how nurturing care in the home must include components of health, nutrition, security and safety, responsive caregiving and early learning which all stem from an enabling environment based in social, economic, political, climatic, and cultural contexts. Miller-Perrin and Perrin (2018) argued childrearing and discipline practices are formed from multiple influences such as personal experiences, fellow parents, community and church members, media, community support, laws within a society, and the overarching cultural norms which are inserted at each level. Concerning the debate on whether to use corporal punishment as a discipline method on their children, parents are usually influenced by other's arguments or their own experience with being physical punished as a child especially if their belief is they "turned out ok" (Kish & Newcombe, 2015). Leer and Lopez-Boo (2018) asserted the SEM is the best theoretical framework to describe the theory of change that occurs in home visitation programs specifically with the parent-child interactions. The SEM allows for the all the factors that are involved in home visitations to provide the parents with the "skills, knowledge, and motivation necessary to improve their parenting skills" which will result in "more responsive, sensitive, warm, and stimulating parent-child interactions" in order to improve their early child development and health outcomes (Leer & Lopez-Boo, 2018, p. 4).

Literature Review Related to Key Variables and/or Concepts

Early Childhood Development Outcomes

ECD is characterized as the self-regulation, socio-emotional, cognitive, physical, language, and motor development of children aged zero to five years old and continues to be one of the most prevalent public health issues concerning health outcomes and behaviors (Barros & Ewerlin, 2016; Lu et al., 2016). Prevention programming has increased in recent years due to the acknowledgement that ECD establishes the basis for individuals and populations' social and academic performance and economic stability (Black & Hurley, 2016; United Nations, 2015). In an effort to support the importance ECD preventative programs, the SDG developed two targets to keep countries accountable to this effort for young children – "meet development milestones (indicator 4.2.1) and participate in organised learning before primary school" (Black & Hurley, 2016, p. e505). However, millions of this target population age (0-5 years) in LMICs, including those in the Caribbean, are unable to reach these SDG targets making it a dire necessity for ECD programming to be enhanced to these already vulnerable children and families living in LMICs (Lu et al., 2016; Black & Hurley, 2016). In order for healthy ECD environments to prosper, nurturing care from a multi-level approach must be supported at various levels of society – home, parental engagement, child care, school and educators, community, and public policy which echoes the principal values of the SEM (Britto et al., 2017; Bornstein, 2012). The core components of nurturing care consist of the attitudes, behaviors, and knowledge of parents regarding caregiving,

interaction stimulation, caregiver-child responsiveness, and a sense of safety (Britto et al., 2017; Bornstein, 2012; Britto & Engle, 2015).

Longitudinal studies tracking neuroscientific outcomes established this same time period of zero to five years of age has immense impact in the construction and functioning of the brain especially concerning environmental conditions (i.e. adversities and nurturance) (Black & Hurley, 2016) which endures throughout a person's lifespan and following generations (Gertler et al., 2014; Johnson, Riis, & Noble, 2016; Walker, Chang, Wright, Osmond, & Grantham-McGregor, 2015). Neuroscience research linking SES, specifically poverty, and brain development is moderately a new concept (Johnson et al., 2016) yet the foundations of ECD and the emergence of ACEs support the motive to create more programming and research to enhance environmental conditions and community resources that impact self-regulation, long-term cognitive, and health outcomes (Black et al., 2017; Johnson et al., 2016; Shonkoff et al., 2012; Dahl & Lochner, 2012).

It is widely established that children living in poverty or low socioeconomic conditions are more likely to experience corporal punishment, low nurturing care and responsiveness from their parents (Conger, Conger, & Martin, 2010) which is directly linked to smaller white and gray matter volume in childhood years and small hippocampal levels in adulthood years due to negative parenting experiences (Belesky & de Haan, 2011). For the last fifty years, research has been conducted on animals on the effects of enriching environments has on their brain development resulting in evidence showing those in more enriched environments demonstrated advanced learning and

memory and higher capacity for behavioral adaptation and plasticity (Johnson et al., 2016; Jirase & Shinohara, 2014). The preliminary studies indicate that "humans exposed to abuse and maltreatment show reductions in glucocorticoid receptor expression in the brain" (Johnson et al., 2016, p. 7) but more research needs to be completed to better comprehend how to transfer the knowledge gained from animal research to human parenting (McGowan et al., 2009; Suderman et al., 2012; Johnson et al, 2016).

Adverse Childhood Experiences

Since Felitti's et al. (1998) original work on ACEs, research has continued to make the connection of the effects ACEs and toxic stress, especially those in LMICs, have on early brain development and overall health and function (Kimple & Kansagra, 2018). The 10 indicators of ACEs include the following household dysfunctions: physical abuse, sexual abuse, emotional abuse, physical neglect, emotional neglect, intimate partner violence, mother treated violence, substance misuse within household, household mental illness, parental separation or divorce, and incarcerated house member (Substance Abuse and Mental Health Service Administration, 2018, para. 3). Due to the fact that violence, trauma, and toxic stress are not isolated to specific areas, public health researchers suggest economic strengthening strategies, based on the SEM, for public policy and community engagement as a family's low SES continues to put them at risk for repeated ACEs exposure (Centers for Disease Control and Prevention, 2019). It most cases, young children do not experience one ACEs in isolation rather a series of these household dysfunctions (Kerker et al., 2015). Even though ACEs are seen as a "hidden burden" on health (Felitti et al., 1998), a constant in this public health dilemma is the link

between ACEs and relationships of the caregiving environment (i.e. child maltreatment, neglect, corporal punishment) in relation to the child (Zeanah, Burstein, & Cartier, 2018).

ECE and development has been expanded in recent years to not limit interventions to solely the classroom or educational setting but to broaden the notion of early childhood as the foundation for a population's future health, behaviors, societal contribution, and financial stability (Shonkoff et al., 2012; Young, 2017). In addition to improving economic stability in the home, the CDC (2019) outlines the following tactics to reduce ACEs exposure: support parents to change social norms to increase positive parenting, legislation to ban corporal punishment, enhance parenting skills with early childhood home visitations, and early intervene to prevent future harms and risks. Resilience efforts to ACEs such as protective factors (i.e. family, community) that provide nurturing care with adult caregivers, positive changes to SES, and engaged social networks can be contributors to preventing this public health problem before it begins (Kimple & Kansagra, 2018; Lanier et al., 2018).

Even though it is unknown which factors increase or decrease intergenerational continuity of ACEs (Schofield et al., 2018), community environmental factors such as low SES, lack of neighborhood services, exposure to violence, poor social cohesion, and harsh parenting continue to be seen as an intergenerational cycle that cripples vulnerable families for not only poor quality of life but increased health problems and decreased life span (Maguire-Jack & Negash, 2018; Maguire-Jack & Showalter, 2016; Ma et al., 2018). ACEs habitually are viewed as having a "two-generation" impact (Skonkoff et al., 2012) as the same experiences at the home and community level are "passed on" to the second

generation due do a caregiver's behavioral and biological actions (Zeanah et al., 2018). Maternal ACEs are associated with a plethora of poor health outcomes for their children including at risk of developmental issues due to alcohol or drug use during pregnancy, low birthweight and gestational age, poor physical, socio-emotional, and cognitive problems in infancy into adolescence (Racine, Plamodon, Madigan, McDonald, & Tough, 2018; Folger et al., 2018; Madigan, Wade, Plamondon, Maguire, & Jenkins, 2017). Figure 1 provides a visual representation of the ACEs pyramid and its various layers which influence health and wellness throughout a lifespan.

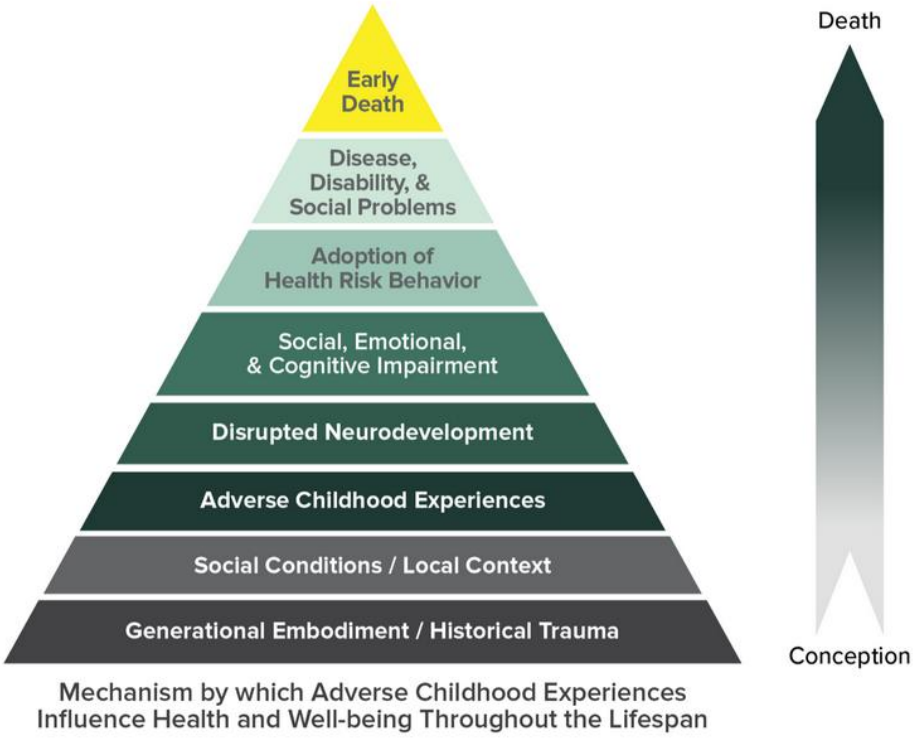

Figure 2. The Adverse Childhood Experiences (ACEs) pyramid. From "Adverse Childhood Experiences Presentation Graphic," by Centers for Disease Control and Prevention, 2019b (https://www.cdc.gov/violenceprevention/childabuseandneglect/acestudy/ace-graphics.html). In the public domain.

Socioeconomic Status

Although low SES is often linked to childhood exposure to ACEs, Taylor-Robinson et al. (2018) categorized this dual association as "conceptually muddled" as ACEs often supersedes low socioeconomic conditions making low SES overlooked for their drastic effect on childhood and adult health outcomes (p. e263). Low SES is much more than a household without consistent and reliable income (Hauser, 1994); it continues to be negatively correlated with health outcomes in all age groups and in all regions of the world (Leonard, Hughes, & Pruitt, 2017). Researchers expanded the concept of ACEs to include factors such as lone parenthood, low parental education, and parental unemployment (Hughes et al., 2017; Taylor-Robinson et al., 2018) and emphasized the role parental education, monthly income, and marital status holds in the home environment especially when corporal punishment is used (Lo, Das, & Horton, 2016; Black et al., 2017; Friedson, 2016). The work of Entwisle and Astone (1994) provides a conceptual framework as to how SES will be viewed in this study as financial, human, and social capital all hold equal weight in measuring the effects of a family's SES and in return, their health. Many researchers studying the effects of SES have on child development use Entwisle and Astone's work (1994) for their clear-cut understanding and explanation of SES and health outcomes (Vable, Gilsanz, Nquyen, Kawachi, & Glymour, 2017; Oakes & Rossi, 2003; Braveman, Cubbun, Marchi, Egerter, & Chavez, 2001; Cheng, Goodman, & the Committee on Pediatric Research, 2015). Financial capital is categorized as income and recipient of funds or services, human capital is categorized as educational attainment, and social capital is categorized as poverty level,

subsidized meals at school (not relevant to our target population), and parental occupational prestige (Entwisle & Astone, 1994). Figure 2 provides a visual representation of these three capitals as combining factors for a household's SES which ultimately provides influence for health outcomes (Vable et al., 2017).

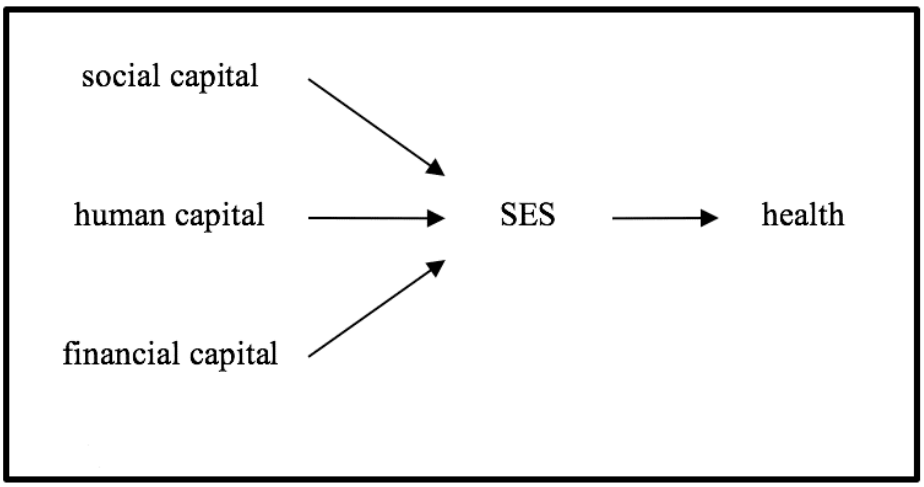

Figure 3. Option for modeling the relationship between SES and health (Vable et al., 2017, p. 3)

Parental educational attainment. Parental educational attainment was used as an independent variable in this study as an association to the use of corporal punishment in the home environment. Parental education plays a major role in the home for both level of schooling attained as well as education received concerning parenting practices and coping mechanisms (Hackworth et al., 2018; Elliott & Bachman, 2018). How a parent views the importance of education can have a direct impact on his/her own children's educational attainment especially their readiness for kindergarten with the skills necessary for success (Elliott & Bachman, 2018). Parental educational attainment, especially the mother's education (Mercy & Steelman, 1982), can be measured as both the level of diploma received and years in school (Chen, Kong, Gao, & Mo, 2018).

An UNICEF Office for the Eastern Caribbean (2017b) report investigated seven countries in the Eastern Caribbean, including Grenada, and included the following factors as major enabling barriers to the region's educational system: low parental engagement and involvement in schooling, child abuse and violence, poverty, inadequate public provisions for early childhood education and children with special needs, inadequate student support for struggling learners, deficiencies in teacher quality, and poor readiness for transition from primary to secondary school (p. 18-19). This report echoed the immense value parental educational attainment and engagement in their own children's learning has on their school advancement and comprehension as learning in the classroom must be enforced in the home setting for optimal understanding, and long-term retention (UNICEF Office for the Eastern Caribbean, 2017b). If parents are not able or willing to be supportive in their own child's educational attainment in and out of the classroom, it creates a disconnect very early in the child's learning as it is already well established that the educational system in the Caribbean has existing economic and environmental barriers (Escayg & Kinkead, 2018).

Parental marital status. Parental marital status was used as an independent variable in this study as an association to the use of corporal punishment in the home environment. Gender roles in the post emancipated Caribbean era became even more disconnected as male laborers migrated from the region either for extended seasons or permanently which left the women to be responsible as head of households and raise their families (Blank, 2013). This greatly contributed over the last century of low rates of legal marriage in the Afro-Caribbean families with high rates of illegitimate or "out of

wedlock" children; in the Eastern Caribbean alone, approximately 70% of children born are from non-nuclear, husband and wife, families (Blank, 2013). SES plays a large role in marriage as it is customary for the upper-class to have large religious weddings in which the entire community is invited hence most relationships from the lower to middle class are that of common-law marriages where couples cohabitate with one another in the same household but are not legally married (Esteve, Lesthaeghe, López-Gay, & García-Román, 2016).

The family structure in the Caribbean has been well documented from anthropologists as unique for its "late age at marriage, high rates of births to single women, matrifocality, child dispersal, *de facto* polygyny, serial monogamy, and severe beating of children" (Schwartz, 2016, para. 1). Mothers and their children, often called the matrifocal family, are the foundation of the Caribbean family unit (Blank, 2013) yet if there is a male living in the household, they tend to still be seen as the head of household; however, women are almost always responsible for the childrearing and monetary decision-making (Barrow, 1996). Throughout the world, women-headed households remain the poorest (Barrow, 1996) and in Grenada specifically, the unemployment rate for women is 40% (Boduszek et al., 2017) and almost half (48%) proportion of households on the island are recorded as women-headed (UNICEF, 2015). In the Organization of Eastern Caribbean States (OECS) countries, Grenada has the highest percentage of female-headed households with 44% classified in the three lowest consumption quintiles in comparison to 18.6% of male head-headed households on the island (Boduszek et al., 2017; United States Department of State, 2017).

Parental monthly income. Parental monthly income was used as an independent variable in this study as an association to the use of corporal punishment in the home environment. Other than the obvious financial necessities for shelter, food, clothing, and school fees, parental monthly income, especially in LMICs, provides an extra layer of parental stress which makes ideal parenting behaviors difficult and in turn has negative consequences on the children in the home environment (Parkes, Sweeting, & Wight, 2015). In the Caribbean, it has long been the norm that both parents, whether or not they live in the same household, must both seek work in order to bring income into the household and yet with recent economic recessions, high unemployment continues to be a constant (Maynard & Fayombo, 2015). Grenada has an annual per capita gross domestic product of US$9,469.22 which averages to a monthly income of US$790.00 for working individuals (World Bank, 2018). However, it should be noted that under Section 52 of the Grenada Employment Act No. 14, the minimum monthly wages since 2011 for clerical workers, domestic workers, caregivers, agricultural workers, and workers in the hospitality industry, all industries heavily occupied by women, is on average between US$262.00 to US$337.00 (Government of Grenada, 2011).

In addition to having a high proportion of female-headed households, Grenadian women tend to support larger households, which usually have at least three or more children and one or more extended family members living under the same roof, with their monthly income than their male counterparts (UNICEF Office for the Eastern Caribbean, 2017a). Grenadian women in low SES conditions, often from families of generational poverty, are more at risk of being trapped in a cycle of "learned helplessness" with

survival skills of transactional sex and illegal activity when their monthly income is less than the monthly household demands (UNICEF Office for the Eastern Caribbean, 2017a). Research indicates family income as a continuous predicator for the use of corporal punishment, especially maternal use, in the home environment of low SES households (Pereira, Negrao, Soares, & Mesman, 2015).

Corporal Punishment

Under the United Nations Committee on the Rights of the Child's General Comment No. 13, physical violence can be either fatal or non-fatal actions in the forms of "physical torture, cruel and inhuman physical punishment, physical bullying and hazing, and corporal punishment" (UNICEF, 2014, p. 30). Corporal punishment continues to be the most common form of violence children are exposed to as it is the main and preferred discipline method for many cultures (Bassam et al., 2018). One billion children each year worldwide, approximately six out of ten, from the ages of 2 to 14 are regularly inflicted to corporal punishment (UNICEF, 2014). Decades of research on corporal punishment can affirm two conclusions – harsh physical punishment is ineffective at improving children's undesirable/negative behavior (Gershoff et al., 2018; Gershoff & Grogan-Kaylor, 2016) and it puts children at risk for increased child maltreatment and physical injury, negative behavioral outcomes, poor mental health, poor cognitive outcomes, and decreased self-regulation (Gershoff & Grogan-Kaylor, 2016; Afifi et al., 2017; Gershoff et al., 2018). More emerging research concludes that children exposure to corporal punishment, regardless of severity, increases aggressive child behavior, decreases parent-child attachment, decreases empathy, reduces academic achievement,

increases antisocial behavior like bullying and involvement in criminal activity, increases risk of drug and alcohol addiction, and increases chances of being in a domestic violence relationship later in life (Bassam et al., 2018; Gershoff et al., 2018; Afifi et al., 2017; Gershoff & Grogan-Kaylor, 2016; Landon et al., 2017). As a discipline method passed down generation after generation, corporal punishment continues to be prominent in the Caribbean as a method of parental control (Griffith & Grolnick, 2014) and authoritative symbol of parental respect (Crouch et al., 2017).

Prevalence of corporal punishment in the Caribbean. Caribbean parenting practices emerged from a history of colonialism of being forcibly transported and enslaved to build and maintain plantation societies for the European colonial masters (Landon et al., 2017; Roopnarine & Jin, 2016). This imposed mentality of submission under violent domination and physical control over another human being provided a destructive foundation for the high levels of corporal punishment and family violence within the Caribbean home environment and society at large (Bailey et al., 2014; Delle, 2014; Smith, 2016; Smith & Mosby, 2003). Although corporal punishment in the Caribbean is in violation of a child's human right for respect of physical integrity and human dignity, it continues to be authorized as lawful in the home setting, institutional care homes, day cares, school setting, and the penal system (Caribbean Coalition for the Abolition of Corporal Punishment of Children, 2016, para. 3).

Christianity and Catholicism traditional religious values and practices since the colonial era have become deeply rooted into Caribbean family structure, childrearing, and society (Watkinson & Rock, 2016; Payne, 1989; Barrow, 1996). The frequently biblical

reference phrase “spare the rod and spoil the child” has become a mantra for Caribbean childrearing as the dominant authoritarian parenting style is based on power-control assertive strategies, specifically corporal punishment (Burke & Kuczynski, 2018; Smith & Mosby, 2003). Even though Caribbean people subscribe to the notion that “it takes a village to raise a child,” childrearing and practices in the home are treated as a family matter and persons tend to not intervene in fear of being “fast” or overstepping boundaries.

Countries like Trinidad and Tobago, Haiti, and Aruba are making great legislative strides to prohibit corporal punishment use in most settings yet the rest of the island states in the region continue to lag in any kind of prohibition (Caribbean Coalition for the Abolition of Corporal Punishment of Children, 2016). The statistical evidence of corporal punishment prevalence in the region is severely alarming:

- Barbados: A 2009 study of 800 adults and 360 children highlighted that 86% of children reported being “flogged” at home, 56% at school, and 63% of surveyed adults admitted flogging their child and showed high levels of support for this type of harsh physical punishment (Caribbean Development Research Services, 2009).
- Dominica: A 2009 focus group study of 403 children, aged 6-16 years, reported only 15% had not experienced physical punishment in the home setting and only 14% had not experience physical punishment from a teacher at the school setting. At both settings, the preferred objects to administer

physical punishment were a stick, cane, strap, belt or hand (Le Franc, Riley-Hunte, & Wharton, 2009).

- Guyana: A 2010 UNICEF statistical analysis of surveys collected in 2005-2006 reported 76% children, aged 2-14 years, experienced violent discipline in the home setting with boys more likely to be victims of violent discipline than girls (80% compared to 75%) and children living in larger households (6 or more persons) were more likely to be victims of violent discipline than those in small households (2-3 persons) (UNICEF, 2010).
- Jamaica: A 2010 UNICEF statistical analysis of surveys collected in 2005-2006 reported 89% of children, aged 2-14 years, experienced violent discipline; children living in households with adults with higher educational attainment were less likely to be exposed to violent discipline (UNICEF, 2010).
- St. Lucia: A 2014 UNICEF statistical analysis of surveys collected in 2012 reported 68% of children, aged 2-14 years, experience violent discipline in the home setting with 21% of mothers or caregivers agreeing physical punishment is a childrearing necessity (UNICEF, 2014).
- Trinidad and Tobago: A 2010 UNICEF statistical analysis of surveys collected in 2005-2006 reported 77% of children, aged 2-14 years, experienced violent discipline; children aged 2-4 years (83%) were more likely than older children aged 5-9 years (79%) and 10-14 years (74%) to be victims of violent discipline (UNICEF, 2010).

In Grenada, the Juvenile Justice Act of 2012 prohibited corporal punishment as a crime sentence, but it has yet to be enforced whereas the Child Protection Act and the Education Act have restrictions as to who can administer the corporal punishment, it is still legal under Grenada law (Caribbean Coalition for the Abolition of Corporal Punishment of Children, 2016). According to the Global Initiative to End All Corporal Punishment of Children (2018), corporal punishment is prohibited in Grenadian institutional care homes, yet it is not regulated nor enforced. According to the Grenada National Coalition of the Rights of the Child (GNCRC), 600 cases of child abuse, including corporal punishment, were reported in 2018 alone but these statistics are seen as not being an accurate caption of this public health issue affecting children as many cases go unreported ("Over 600 cases of child abuse," 2019). Of these 600 reported cases of child abuse, 107 cases were cited as harsh physical punishment (i.e. corporal punishment) with GNCRC members calling for eradication of corporal punishment in all its forms in Grenada ("Over 600 cases of child abuse," 2019). Community health promotion targeting positive parenting strategies and improving early childhood development are in dire need at the community level in order to address this public health dilemma of a country's and region's widespread use of corporal punishment use on their children.

Home Visitation Parental Support in the Caribbean

A healthy, safe, and positive stimulating home environment can have momentous advantages for ECD especially for low income, at-risk families where there is a history of exposure to violence and ACEs (Johnson et al., 2017; Ansari & Gershoff, 2016; Janssens

& Rosember, 2014). Home visitation public health interventions in low SES areas, by implementing behavior-change and connection strategies, have shown positive impacts in parent-child attachment (Wright & Rosemberg, 2016), child cognitive development (Murray, Cooper, Arteche, Stein, & Tomlinson, 2015) and in turn, shown reductions of corporal punishment use (Britto et al., 2017; Gershoff et al., 2017; van Dijken et al., 2016; Black et al., 2017). This public health effort allows for the theoretical teachings of positive and nurturing parenting to be enforced in real life scenarios in the familiar environment of the home setting rather than guiding parents with out-of-context support, especially when the training is not culturally specific nor sensitive (Ruiz-Casares et al., 2919; Trickett, 2009; Britto et al., 2017; Gershoff et al., 2017; Black et al., 2017). Public health practitioners and researchers recognize the indispensable value culturally specific interventions, particularly in low-income and low-resource areas, have on all layers of society (i.e. individual, interpersonal, community, organizational, public policy) especially in the home environment with it being the primary setting for ECD and prediction of future health outcomes (Black et al., 2017; McCoy et al., 2017; Worthman, Tomlinson, & Rotheram-Borus, 2016). Although there have been many attempts of implementing such parental home visitation programs in the Caribbean, there is a massive gap of evidence-based research regarding their effectiveness and impact on ECD and reduction of violence in the home.

The first most well-known home visitation programs from the Caribbean was in Kingston, Jamaica, known as the Jamaican Home Visit (JHV) Programme, with trained community health aides performing weekly home visits with mothers and three-year-old

children using psycho-social stimulation activities (Grantham-McGregor & Desai, 1975). After weekly exchanges with a maximum of 29 visits, the mothers' knowledge of positive childrearing improved and the children's' IQ increased (average 13 IQ points) compared to the control group (Grantham-McGregor & Desai, 1975). A twenty-year follow-up study was conducted on the same children with results showing a "higher IQ and educational attainment, better mental health, less violent behavior, and about 25% higher earnings than the control group" (Leer & Lopez Boo, 2018, p. 2). Similar home visitation programs in Jamaica were implemented (Gardner, Walker, Powell, & Grantham-McGregor, 2003; Powell & Grantham-McGregor, 1989) but do to their small-scale and reduction of home visits, they weren't as effective as the initial larger scale program (Leer & Lopez-Boo, 2018). Similar JHV home visitation programs were integrated in Bangladesh and Columbia (Hamadani, Huda, Khatun, & Grantham-McGregor, 2006; Attanasio et al., 2014) as well as others modeled after the JHV like the Reach Up program, implemented in Brazil and Zimbabwe (Smith, Baker-Henningham, Brentani, Mugweni, & Walker, 2018), due to JHV's low-cost intervention success with low SES families with young children in developing countries.

Roving Caregiver Programme. Other than the JHV, the other main ECD home-based intervention in the Caribbean was the Roving Caregiver Programme (RCP), another initiative from the island of Jamaica. As a response to daycares and nurseries mostly located in larger towns and suburban areas, it left out mothers living in rural areas, majority of which were low-income and unemployed, for ECD services for their young children (Greene, Murray, & Lynch, 2016). The RCP has since spread to other English

speaking Caribbean countries with similar low-income and low-resource environments – Belize, St. Lucia, St. Vincent and the Grenadines, Dominica, and Grenada (Greene et al., 2016). Similar to JHV, "Rovers" are paraprofessional community health workers but are placed in the same communities in which they are from to enhance familiarity to the families and create a stronger sense of community rather than inviting strangers into the home environment. The Rovers work with vulnerable families with children aged zero to three years and visit twice a week for 45-minute sessions by engaging in age-appropriate and stimulating cognitive sensory toys and games (Janssens & Rosemberg, 2014). In addition to the weekly visits, the RCP holds monthly parenting meetings in the village community centers and provides health educational awareness on topics such as nutrition and eating habits, cognitive milestones, and homemade educational toys (Janssens & Rosemberg, 2014).

Although the RCP provided a culturally sensitive, low-cost initiative for the most vulnerable families, there have been two crucial weaknesses to the program. The lack of in-country funding for the program across the islands has threatened its impact and forced the RCP in some of the countries to end entirely. In addition, caregivers tended to be disengaged during the Rover's visit (Janssens & Rosemberg, 2014); since the child was familiar with the Rover, the caregivers felt comfortable to leave the child alone with the Rover in order to engage in household duties or have a free moment for themselves. This defeated the purpose of the sessions in two ways – the connection was being formed with the Rover and the child rather than the caregiver and child as well as a lack of transfer of skills from the Rover to the caregiver due to his or her absence during the sessions.

Without this transfer of knowledge and skills, the child only received the early stimulation and play when the Rover came by the home for the bi-weekly sessions (Greene et al., 2016).

In Grenada, the RCP is still thriving due to governmental and community support as well as the collaboration with SBG, a Grand Challenges Canada funded community-based initiative aimed at reducing corporal punishment by increasing caregiver-child connection and child neurodevelopment through the teachings of Conscious Discipline (Mental Health Innovation Network, 2016). Conscious Discipline is evidence-based, trauma-focused and was developed to create a fundamental shift with emphasis on self-regulating adults rather than only children and is currently practiced in 47 countries in 22 languages (Conscious Discipline, 2019). Before the collaboration with SBG, the RCP's goal was on early stimulating young children to better prepare them with the cognitive and social skills for school entry. Although commendable, children's neurodevelopment is at risk when exposed to corporal punishment and child maltreatment (Gershoff, 2016) thus highlighting the current gap in Grenada's only home-based early childhood development service. Figure 3 provides a visual representation of the SBG community-based Conscious Discipline meme to reduce corporal punishment and improve infant development (Mental Health Innovation Network, 2016).

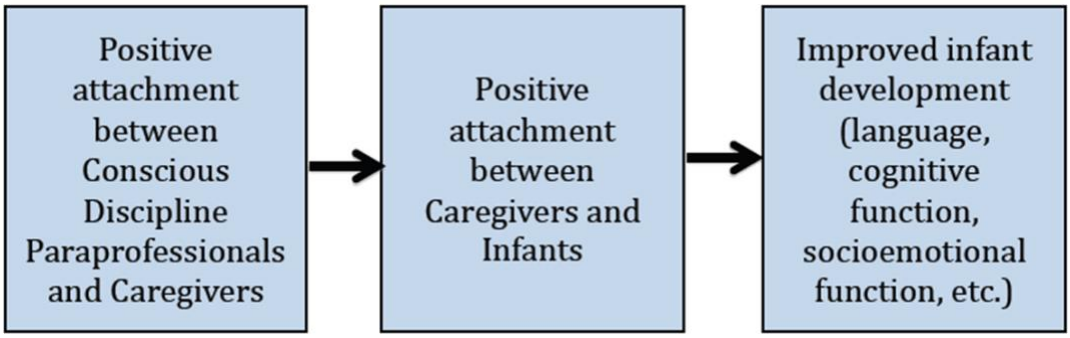

Figure 4. Saving Brains Grenada Community Conscious Discipline meme (Mental Health Innovation Network, 2016)

A more culturally adapted public health promotion investing in the whole home environment, parent and child, provides higher returns in creating positive social change in these low SES communities. Only addressing one component of ECD in these low SES communities will not create this social change rather it will simply soften the existing ACEs. Recent statistical evidence-based research is severely lacking as a whole across the entire Caribbean region on ECD and effects of ACEs, especially in Grenada (UNICEF Office for the Eastern Caribbean, 2017a). For there to be sustainable positive multigenerational social change in Grenada, educational awareness on the practice of corporal punishment must be replaced with healthier, safer, culturally sensitive parenting practices integrated into all levels of society for optimal effectiveness.

Summary

In this chapter, I reviewed the literature on the damaging effects of ACEs, including corporal punishment; have on young children living in LMICs such as those in the Caribbean. Parental educational attainment, parental marital status, and parental monthly income all play a crucial role in the socioeconomic status of young children and the home they grow up in as it can predict their own educational and health outcomes

later in life (Chen et al., 2018). The literature presented outlined how children from LMICs are alarmingly at risk of not reaching their full developmental potential (Frongillo et al., 2017) which provides opportunities for more innovative public health culturally sensitive initiatives that target multigenerational cycles of poverty and violence (Lo et al., 2016). The literature confirmed the negative impact corporal punishment has on children, especially those aged zero to three years, and the prevalence of its use in the Caribbean household rooting in its history of colonialism (Roopnarine & Jin, 2016). The literature acknowledged the abysmal amount of statistical evidence-based research on the impact of corporal punishment on the neurodevelopment of Grenadian and Caribbean children and therefore, the need for more field work home-based research to be conducted for future public health preventative measures.

The SEM was applied to address this research gap by outlining the five-layered approach of the multifaceted factors. The SEM was concentrated on how the Grenadian and Caribbean social norms are embedded in the individual, interpersonal, community, organizational, and enabling environment level factors (UNICEF, 2016). The SEM provided a theoretical framework to explain the importance of attitudes, behaviors, knowledge, and influence of family, friends, and community members have on childrearing and discipline practices (Friedson, 2016). The SEM was used to illustrate how culturally sensitive health promotion must be targeted at each level of society in order for sustainable positive social change to occur. For this study, I examined whether parental educational attainment, parental marital status, and parental monthly income are associated with the use of corporal punishment in the Grenadian home. This study also

scrutinized if parental enrollment in a culturally sensitive parenting counseling impacted the use of corporal punishment in the home environment and if such corporal punishment impacted the neurodevelopment of the children aged zero to three years old. In Chapter 3, I will discuss a comprehensive description of the study design and the secondary data analysis methods that will be used to conduct this study.

Chapter 3: Research Method

Introduction

The purpose of this quantitative study was to examine the impact of parental exposure to culturally sensitive parenting counseling provided to families with young children aged 0 to 3 years old enrolled in the RCP in Grenada. In the Caribbean, there is a significant shortage of home-based visitation interventions that target parent-child connection and early stimulation for this target age group especially in low-income and low-resource communities (O'Sullivan & Minott, 2018). Researchers studying these parental support home-based visitation interventions have recognized that their lack of effectiveness in the past was due to three main factors: their inability to be integrated throughout the whole society, especially in churches, schools, and governmental policy; lack of acknowledgement of the strong impact the region's colonial history and experience of corporal punishment has on cultural practices, beliefs, and childrearing; and lack of awareness among parents of the drastic consequences this type of child maltreatment has on early childhood development and future health outcomes (O'Sullivan & Minott, 2018; Roopnarine & Jin, 2016; Roopnarine, Jin, & Krishnajumar, 2014; Saving Brains, 2015; Schwartz, 2016; Smith, 2016; Sutton & Alvarez, 2016). For these reasons as well as the absence of financial resources and a deficiency in data collection and analysis, there is very little known about the impact SES and parental involvement in culturally sensitive parenting counseling has on the use of corporal punishment on young Grenadian children and their neurodevelopment.

This chapter includes information on the study's design, sampling procedures, instrumentation and their reliability and validity, data analysis, and ethical considerations. In this chapter I will provide my rationale for selecting a quasi-experimental, pre- and posttest study design using secondary data. In addition, I will describe the instrumentation used and discuss how it was most fit to holistically capture statistically information in a country where there are no data on the public health dilemma of violence in the home environment.

Research Design and Rationale

I investigated how parental involvement in culturally sensitive parenting counseling can reduce parents' use of corporal punishment in the home environment. The dependent variable of this study was parental use of corporal punishment whereas the independent variables were parental educational attainment, parental marital status, parental monthly income, and enrollment in culturally sensitive parenting counseling. In conducting this cross-sectional analysis study, I attempted to fill the gap in the literature, highlighting the Grenadian context, on the impact of parental SES and culturally sensitive parental counseling on corporal punishment use. There is a lack of baseline data on ECD and child maltreatment in the Caribbean, which means many interventions are executed due to situational observation and lack statistical support for their effectiveness (Vegas et al., 2010). To successfully comply with the SDGs, specifically for ECD and child maltreatment, public health workers have to base interventions on data collected from larger, developed countries; this poses a serious threat to Caribbean island-nations, especially smaller ones like Grenada, as the data are derived from populations with vastly

different socioeconomic, cultural, historical, health, and public policy demographics (Kinkead-Clark, 2018; Mwaanga & Adeosum, 2017). It was advantageous that the secondary data I analyzed had not been published for it provided an opportunity to provide analyses on country- and culture-specific data as well as contribute to the current gap in the literature and statistical knowledge before the data became outdated and irreverent.

A main component of the SBG data was retrieving parental attitudes and behaviors in the home environment with children aged 0 to 3 years, which posed a constraint in that timing of home-visitations and execution of pre- and posttest had to be very carefully planned. If posttests were done too late, the child would have outgrown the 3-year-old age range and been enrolled in preschool, which would have made him or her ineligible and unavailable for the study. A cross-sectional study design was the best option as the time was limited in that the RCP had structured home-visitation schedules and one of their main aims was to foster stimulation and prepare children for entry into preschool. Even though a longitudinal study design would have allowed for sampling in the home environment at multiple time points, the dedicated cost and time would not have added much value to the study as parents would not have had time to practice their newly learned culturally sensitive parental counseling strategies with their child/ren.

Methodology

Data Source

This study's secondary data are from the SBG (2015-2016) data set, which included data from parents enrolled in the RCP during the same time period. SBG is a

Grand Challenges Canada-funded community-based initiative aimed at reducing corporal punishment by increasing caregiver-child connection and child neurodevelopment through the teachings of Conscious Discipline (Mental Health Innovation Network, 2016). SBG launched in 2014 and collaborated with the long-established RCP, early childhood, home-based program, in training 70 community health workers and paraprofessionals in the teachings of Conscious Discipline and parent-child attachment in an intensive 6 month training series (Saving Brains, 2015).

After successful completion of the training, these selected Rovers went back into their existing communities to demonstrate their new health promotion knowledge and skills to the enrolled parents within the RCP. Rovers engaged in home visitations in all six of the parishes in Grenada as the RCP is a national program for families with at least one child under the age of 3 years. The Rovers are attached to their own village and surrounding communities to increase familiarity and accessibility of the Rover with her associated families. For new recruitments, Rovers frequently partake in door-to-door recruitment for interested parents. At the time of SBG's data collection in 2015, all 596 RCP-enrolled families were included in the data set and gave consent. The official national language of Grenada is English, and all assessments were in English with the addition of oral communication in local, Grenadian Creole dialect to increase cultural sensitivity. The parental demographic information and ACP parental responses were collected from SBG research assistants with the assistance of designated Rovers and all data were stored securely in the two coprincipal investigators' private offices located at St. George's University.

Population

The target population of this national study consisted of parents enrolled in the RCP during the years of 2015 to 2016 in Grenada. At the time of the study, RCP had approximately 600 families; 24.16% lived in the urban parish of St. George, and 75.84% lived in one of the five suburban and rural parishes of Grenada (i.e. St. David, St. Andrew, St. Patrick, St. Mark, and St. John). In 44.46% of the families, the primary caregiver in the home was the mother.

Sampling and Sampling Procedures

Sampling design. The target population was parents enrolled in the RCP during the years of 2015 to 2016 in Grenada. During this time period, a quasi-experimental design involving pre- and posttests was implemented into two groups, intervention and control, within the RCP. Due to the nature of the study, randomization of participants between the intervention and control groups was neither practical nor feasible due to mainly the small size of the population pool (Fotso, Robsinson, Noordam, & Crawford, 2015). Purposive nonprobability sampling was conducted as the target population only included families enrolled in the RCP with specific age groups of children. The rationale for selecting this purposive, nonprobability sampling design and population were as follows: (a) accessibility of the population, (b) the quasi-experimental design was integrated into an existing home-based public health initiative, (c) the population consisted of parents with a child/children aged 0 to 3 years, (d) this SBG data has not been analyzed or published, and (e) the population already demonstrated help-seeking

behaviors by being enrolled in a home-based public health initiative (Mendez, Carpenter, LaForett & Cohen, 2009).

Participants registered for the RCP provided their demographic information (i.e. parental educational attainment, parental monthly income, parental marital status, parental age) before any home-visitations began. The SBG research assistants, under the supervision of the Roving Caregivers, carried out the ACP pre- and post-tests. It was required that the parent be present and active during the home-visitation sessions to ensure transfer of knowledge and practice of culturally sensitive parental counseling was accomplished. No financial or materialistic incentives were given to the participants to be enrolled in the RCP or involved in the study.

Sampling size. According to Pye, Taylor, Clay-Williams, and Braithwaite (2016), it is essential to correctly calculate a study's sample size in order to avoid incorrect, missed, unethical or biased results. In order to determine the most effective sample size for this study, the alpha, statistical power, and effect size must be considered for calculation (Gupta, Attri, Singh, Kaur, & Kaur, 2016). A high statistical power is essential to ensure there is a true relationship between the data's variables. This study's sample size was calculated using a medium effect size (.30) with the recommended power value of 80% (.80) and an alpha of 5% (0.05%) (Betensky, 2019). A power analysis was conducted using G*Power 3.1.9.4 to calculate the sample size and the minimum for the chi-square test was 143 participants (Faul, Erdfelder, Buchner, & Lang, 2009). This study has approximately 300 intervention group participants and 300 control

group participants; therefore, the participant total sample included in this secondary dataset exceeds the minimal required sample size.

Archival Data

Quantitative data in public health research is measurable and focuses on health behaviors, conditions, and specific events by using numerical data to determine the who, what, when, where and how of health-related occurrences (National Institutes of Health [NIH], 2018). The procedure of conducting secondary data collection and analysis goes as follows: "(1) define your research topic and question; (2) select a dataset; (3) get to know your dataset; (4) structure your analysis and presentation of findings in a way that is clinically meaningful" (Smith et al., 2011, p. 921). Benefits of using secondary data in quantitative studies includes the ability to use larger datasets without the financial and logistical barriers that come along with collecting primary data. Some researchers struggle because the original study's RQs might not match their own RQs; therefore, researchers using secondary data must be very knowledgeable about how to analyze the data and ensure they are valid and reliable to correctly address the RQs (NIH, 2018).

As the RCP is an island-wide program employing over 60 community health workers, using secondary data allowed for a wider demographic of RCP families to be represented which only enhanced the sample size for this study (Smith et al., 2011). To use the SBG data, I wrote to the two SBG coprincipal investigators to request permission and access to their data for the purpose of this study. Both the Institutional Review Boards (IRB) in Grenada and through Walden University approved my applications and granted me access to all the data.

Instrumentation and Operationalization of Constructs

In collaboration with the RCP, SBG research assistants collected data between the years of 2015-2016 on the enrolled parents using multiple different types of instrumentation assessments. For the purpose of this study, the instrument that will be used for this study is the Attitudes toward Corporal Punishment (ACP) survey (Mental Health Innovation Network, 2016). Due to the lack of culturally appropriate and competent assessments on corporal punishment at the time of the original study, the SBG team created their own survey to be conducted with parents enrolled in the RCP. The data collected using this instrument has not been officially analyzed nor published which highlighted the need for proper analysis on the existing secondary data.

Demographics. I used the demographic information (i.e. parental educational attainment level, parental marital status, parental monthly income) collected when parents enrolled in the RCP. I received this information from the SBG co-principal investigators.

Attitudes Toward Corporal Punishment (ACP) Instrument. Even though corporal punishment is the "most common form of violence experienced by children" (Bassam, 2018, p. 1) and this form of child maltreatment is viewed as a major public health dilemma affecting behavioral and health outcomes especially for children living in LMICs (Coore Desai, Reece, & Shakespeare-Pellington, 2017), there is a significant deficiency in assessments to investigate the attitudes, behaviors, and frequency of its use on children. Two of the most commonly used assessments in the United States concerning corporal punishment are the Dimensions of Discipline Inventory (DDI) (Strause & Fauchier, 2007) and the Adult Adolescent Parenting Inventory 2.1 version

(AAPI) (Bavolek & Keene, 2005). Although these assessments gather a wealth of information from parents, they are lengthy in nature and are used as an entire assessment on their own whereas the ACP was one of many assessments used in the home setting with the parents. The DDI and AAPI did not match the realms in which a corporal punishment assessment was needed in the Grenadian context as the SBG desired to have a brief assessment that captured parental attitudes and behaviors based on intergenerational use of corporal punishment, intimate partner violence, religious beliefs, and cultural norms and values on respect, authority, and legality use (R. Waechter, personal communication, May 4, 2019). There are limitations in piloting this instrument as it cannot be compared to previous studies, yet it is also seen as an opportunity to enhance the gap of corporal punishment assessments.

The ACP was conducted with the parents during RCP home visitations and there are approximately 300 parents in the control group and 300 parents in the intervention group that completed both the pre- and posttest questionnaire (see Appendix A). As this was the first instance that the ACP instrument was conducted in the field, internal consistency was conducted to provide measures of internal reliability and degree in which items on the scale correlate with each other (Strauss, Sherman, & Spreen, 2006). Internal reliability and test-retest reliability were applied with special attention to the time interval between the baseline and retest to enhance the reliability coefficient (Anastasi & Urbina, 1997; Strauss et al., 2006). In order to establish validity, data was correlated with another well-known measure (i.e. Home Observation Measurement of the Environment (HOME)) to establish external criterion (Strauss et al., 2006). The HOME-IT instrument was

developed by Caldwell and Bradley (1984) to measure the quantity and quality of early childhood stimulation and support within the home environment for children aged zero to three-years old.

Operational definitions of constructs were as follows:

Corporal punishment use: Corporal punishment use is operationally defined as harsh physical punishment imposed to cause a person, often children, a great amount of pain as a discipline method to correct misbehavior (Bassam, Marianne, Rabbaa, & Gerbaka, 2018; Straus, 2001). This categorical dependent variable was measured using the ACP survey. Item examples, question 3 asked "have you even smacked/beaten your child?" and "if yes, how recently: last week, last month, last 6 months, last year?" Question 9 asked "is corporal punishment an effective method of discipline a child?" Question 10 asked "does corporal punishment lead to the development of good character?" Question 11 asked "does corporal punishment help build respect for authority figures?" Question 13 asked "does corporal punishment work better than other disciplinary methods that do not involve physical pain?"

Culturally sensitive parenting counseling: Culturally sensitive parenting counseling is operationally defined as parenting intervention rooted in self-regulation and parent-child connection specifically designed for the Grenadian context. This categorical variable was measured by completion of ACP pre- and post-tests.

Parental educational attainment: The independent variable of parental educational attainment is operationally defined as the highest level of formal education

the primary caregiver in the household has successfully completed. This categorical variable was measured as ordinal as follows: 1 = Primary; 2 = Secondary; 3 = Tertiary.

Parental marital status: The independent variable of parental marital status is operationally defined as the type of marital status of the primary caregiver in the household. This categorical variable was measured as nominal as follows: Common-law marriage 0 = No; 1 = Yes.

Parental monthly income: The independent variable of parental monthly income is operationally defined as the monetary amount of income in Eastern Caribbean Dollars (ECD) brought into the household by the primary caregiver on a monthly basis. This categorical variable was measured as ordinal as follows: 1 = under $500; 2 = $500-1,000; 3 = $1,001 – 2,000; 4 = $2,000 and above.

Data Analysis Plan

Data cleaning and screening procedures. Participants vary in their attention levels and effort when completing survey items (DeSimone, Harms, & DeSimone, 2015). In the case of archival data, the researcher was not the original inputter of the data which means it is essential to have a thorough data cleaning and screening process before analyzing the dataset to ensure all inputted data will result in valid determinations (DeSimone et al., 2015). Data cleaning consists of proofreading the dataset for inconsistencies with the assistance of statistical software programs like Statistical Package for the Social Sciences (SPSS) (Frankfort-Nachimas, Nachimas, & DeWaard, 2015).

Statistical analysis. The software used for this study's data analysis was SPSS as it provided output frequency statistics such as mean, median, range, variance, and standard deviation. This study consisted of four RQs based on the SEM, and therefore, attitudes, behaviors, social norms, and environmental factors are all integrated. RQs 1 2, and 3 were answered using descriptive statistics and the chi-square test due to the variables being categorical in nature. The Pearson's chi-square test includes one independent and one dependent variable to provide an association between the independent and dependent variables as measured by categories (Creswell & Creswell, 2018).

RQ4 was answered using descriptive statistics and binominal regression to investigate if each group was different in corporal punishment from pre- to post-intervention and if the groups differed from each other again determined by the post-test. For the binominal regression, the independent variable was enrollment in culturally sensitive parenting counseling and the dependent variable was use of corporal punishment in the home environment.

Research questions and hypotheses. The study's four RQs and corresponding hypotheses were as follows:

RQ1: Is there an association between parental educational attainment and the use of corporal punishment in the home environment?

H_o1: There is no association between parental educational attainment and the use of corporal punishment in the home environment.

H_a1: There is an association between parental educational attainment and the use of corporal punishment in the home environment.

RQ2: Is there an association between parental marital status and the use of corporal punishment in the home environment?

H_o2: There is no association between parental marital status and the use of corporal punishment in the home environment.

H_a2: There is an association between parental marital status and the use of corporal punishment in the home environment.

RQ3: Is there an association between parental monthly income and the use of corporal punishment in the home environment?

H_o3: There is no association between parental monthly income and the use of corporal punishment in the home environment.

H_a3: There is an association between parental monthly income and the use of corporal punishment in the home environment.

RQ4: Did the parental enrollment in the culturally sensitive parenting counseling impact the use of corporal punishment in the home environment?

H_o4: There is no impact in the use of corporal punishment in the home environment after enrollment in the culturally sensitive parenting counseling.

H_a4: There is an impact in the use of corporal punishment in the home environment after enrollment in the culturally sensitive parenting counseling.

Table 1 shows a visual representation of each RQ, hypothesis, and associated statistical analysis.

Table 1

Summary of Statistical Analyses

Research question	Hypothesis	Independent variable (IV)	Dependent variable (DV)	Statistical analysis	Covariates
RQ1: Is there an association between parental educational attainment and the use of corporal punishment in the home environment?	H_a1: There is an association between parental educational attainment and the use of corporal punishment in the home environment.	(1) Parental educational attainment (ordinal)	(1) Use of corporal punishment (nominal)	(1) Chi-square test	None. This will be addressed in the RQ4 analysis.
RQ2: Is there an association between parental marital status and the use of corporal punishment in the home environment?	H_a2: There is an association between parental marital status and the use of corporal punishment in the home environment.	(1) Parental marital status (nominal)	(1) Use of corporal punishment (nominal)	(1) Chi-square test	None. This will be addressed in the RQ4 analysis.
RQ3: Is there an association between parental monthly income and the use of corporal punishment in the home environment?	H_a3: There is an association between parental monthly income and the use of corporal punishment in the home environment.	(1) Parental monthly income (ordinal)	(1) Use of corporal punishment (nominal)	(1) Chi-square test	None. This will be addressed in the RQ4 analysis.
RQ4: Did the parental enrollment in the culturally sensitive parenting counseling impact the use of corporal punishment in the home environment?	H_a4: There is an impact in the use of corporal punishment in the home environment after enrollment in the culturally sensitive parenting counseling.	(1) Enrollment in culturally sensitive parenting counseling (nominal)	(1) Use of corporal punishment (nominal)	Binominal regression	(1) Parental educational attainment (2) Parental marital status (3) Parental monthly income (4) Number of training sessions received

Threats to Validity

In a quasi-experimental study, both internal and external threats can affect the validity of the data and its analysis (Shadish, Cook, & Campbell, 2002). The internal validity threats constitute as experimental procedures or experiences of the participants that can impend the researcher's quest to collect correct data on the target population whereas external validity threats occur when the experimenters themselves incorrectly generalize the data from other populations and locations either in past or possibly future situations (Creswell & Creswell, 2018). In addition, statistical conclusion validity can occur when researchers incorrectly interpret the data due inadequate statistical power or when they use insufficient measures and definitions of variables (Creswell & Creswell, 2018). The threat can be addressed by using a larger sample size amongst the target population to achieve statistical power (Frankfort-Nacmias et al., 2015).

Internal Validity Threats

Possible internal validity threats to this study included selection bias, resentful bias, testing bias, and instrumentation bias (Creswell & Creswell, 2018). Participants were selected to be a part of the SBG study as they were parents with young children aged zero to three years enrolled in the RCP. The researchers used purposive, non-probability sampling to avoid selection bias within the process of dividing the groups into control or intervention to ensure participants were randomly distributed. In an effort to avoid participants in the control group feeling resentful or unequal to the intervention group, the RCP culturally sensitive parenting counseling in the form of home-visitations

were provided to the control group families once the experiment ended. Since the study was quasi-experimental, pre- and post-tests were conducted which means that testing bias could have occurred as participants could have become familiar with the instruments and remember their responses for future testing (Shadish et al., 2002). To combat testing bias, researchers conducted the pre- and post-tests at least 11 home-visitations apart from one another which is approximately at least three months. Instrumentation bias was avoided as the same assessments and instruments were conducted for these pre- and post-test measures.

External Validity Threats

Possible external validity threats to this study included interaction of selection, setting, and history and treatment (Creswell & Creswell, 2018). For the RCP selection criterion, the parent needed to be a resident of one of the six parishes in Grenada and have at least one child under the age of three years old. Although the families enrolled in the RCP tend to have similar SES, it cannot be generalized that the data represented other RCP families from other Caribbean islands where the program is implemented if the participant criterion and characteristics differ from those in Grenada. The RCP has been evaluated in different capacities on other Caribbean islands (van Spijk, Groot Bruinderink, Janssens, & Van der Gaag, 2010; Greene et al., 2016; Janssens & Rosemberg, 2014; Powell, 2004; Roopnarine, 2005) but these evaluations did not explore how a culturally sensitive parenting counseling could impact corporal punishment use in the home setting as well as neurodevelopment of the children. While most Caribbean islands have similar West Indian historical backgrounds and identities, each country

might not have congruent cultural and social norms, financial in/stabilities, attitudes and behaviors (Punnet & Greenidge, 2009). This results for researchers to conduct additional experiments to examine if the similar results occur (Shadish et al., 2002). In addition, experiment results are time-bound which means researchers need to continually replicate studies to determine if SES, cultural components, and the various layers of the SEM within the Grenadian context are still valid. The ACP assessment was developed specifically for the Grenadian context as other assessments would have inadequately generalized the attitudes and behaviors of this type of harsh parenting in the home environment (R. Waechter, personal communication, May 4, 2019).

Ethical Procedures

Ethical standards are of high importance for this study especially since the data showcased the attitudes and behaviors in the home environment of a small, medium-income island nation in the Caribbean. Due to the nature of secondary data, no informed consent is necessary for this research; however, protecting the identity of the participants is of priority to the researcher. It is essential the research and data analysis has a foundation based on respect for persons, beneficence, and justice (Yip, Han, & Sng, 2016). Special attention was placed on coding of participants' information, participant confidentiality, data security, and data storage. Although the secondary data collected and analyzed for this study does not intend to cause physical or emotional harm to the participants, no specific geographical location or other distinguishable information was stated in this study to ensure protection of participants' identity (i.e. parish name, attached Roving Caregiver). The researcher was granted verbal and written permission

from the two SBG co-principal investigators to access and analyze the research collected in 2015 to 2016. Since receiving the IRB approval, the researcher stored the archival data on her personal work computer with password protection and all soft copies of data were stored in a locked cabinet in her personal office. The data will be stored for up to five years and then destroyed, as required by Walden University.

Summary

This quasi-experimental, quantitative research study used secondary data from SBG highlighting on demographic information and the ACP to explore the association of parental involvement in culturally sensitive parenting counseling had on the use of corporal punishment in the home environment. The archival SBG data was collected during 2015 to 2016 with approximately 600 total number of participants to have 30% effect size, 80% power, and 5% alpha. SPSS software was used to analyze the archival data through chi-square tests and binominal regressions. Chapter 4 will describe in detail the study's data collection, results, and findings.

Chapter 4: Results

Introduction

The purpose of this quasi-experimental, quantitative study was to examine the impact of exposure to culturally sensitive parenting counseling provided to families with young children aged 0 to 3 years old enrolled in the RCP in Grenada. This study had a cross-sectional design that included secondary data collected from SBG in 2015-2016 with the assistance of community-based Roving Caregivers. SBG's collaboration with the RCP was predominantly funded by SBG in partnership with Grand Challenges Canada (Saving Brains, 2015). Although the original SBG data set included a large amount of data from multiple instruments, this study fixated specifically on socioeconomic demographic information and pre- and posttest parental responses from the ACP instrument. The total sample size examined for this study was 596. This sample size surpassed the minimum required sample of 143 participants to analyze the RQs using chi-square test analysis (see Faul et al., 2009).

I addressed the following four RQs and their corresponding hypotheses using chi-square to test for associations and binominal regression to test for impact through the SPSS Version 25.

RQ1: Is there an association between parental educational attainment and the use of corporal punishment in the home environment?

H_o1: There is no association between parental educational attainment and the use of corporal punishment in the home environment.

H_a1: There is an association between parental educational attainment and the use of corporal punishment in the home environment.

RQ2: Is there an association between parental marital status and the use of corporal punishment in the home environment?

H_o2: There is no association between parental marital status and the use of corporal punishment in the home environment.

H_a2: There is an association between parental marital status and the use of corporal punishment in the home environment.

RQ3: Is there an association between parental monthly income and the use of corporal punishment in the home environment?

H_o3: There is no association between parental monthly income and the use of corporal punishment in the home environment.

H_a3: There is an association between parental monthly income and the use of corporal punishment in the home environment.

RQ4: Did the parental enrollment in the culturally sensitive parenting counseling impact the use of corporal punishment in the home environment?

H_o4: There is no impact in the use of corporal punishment in the home environment after enrollment in the culturally sensitive parenting counseling.

H_a4: There is an impact in the use of corporal punishment in the home environment after enrollment in the culturally sensitive parenting counseling.

This chapter contains a description of the SBG secondary data collection process and information on how the data for each RQ and hypothesis were analyzed. Relevant tables

are presented to illustrate data results regarding the potential impact of exposure to culturally sensitive parenting counseling on Grenadian families enrolled in the RCP.

Data Collection

I obtained this study's secondary data from the SBG 2015-2016 data set containing data from Grenada, West Indies. St. George's University, located in Grenada, has its own IRB, which is a registered body with the Office of Human Research Protections under the United States Department of Health and Human Services (St. George's University, 2019). I signed a data use agreement with one of the SBG principal investigators, Dr. Barbara Landon, in order to use the limited data set for this study. St. George's University exempted me from the full IRB application and gave approval to use this declassified secondary data for this study (see Appendix B). I obtained the SBG data after Walden University's IRB granted me approval; the IRB approval number is 09-17-19-0471560 (see Appendix C). In previous Walden University coursework, I completed a NIH online course enabling me to handle human subject data; the NIH training course certification number is 2101685 (see Appendix D). All data excluded personal identifiers such as name, address, and contact information and are stored on my personal work computer with password protection; all soft copies of data are stored in a locked cabinet in my personal office.

There were two discrepancies from the original plan outlined in Chapter 3; these concerned the number of training sessions received variable and missing data. Upon receiving IRB approval and access to the data set, I realized that there was a significant amount of missing data for the fourth RQ's covariate of "number of training sessions

received" for the parents enrolled in the RCP. There were missing data for the intervention group in three parishes, which I felt it would have skewed the data and misrepresented the findings. In addition, data were missing for some of the demographic information, but the minimum sample size of 143 that was needed for chi-square tests was met.

Population

Participants were male and female Grenadian citizens of either Afro-Caribbean or Indo-Caribbean ethnicity who were actively enrolled in the RCP. In 2015, the estimated population of Grenada was 106,823 with the predominate age range of 25-54 years old embodying 40.27% of the population followed by 0-14 years old (23.84%), 15-24 years old (14.61%), 55-65 years old (10.97%), and lastly, 65 years and older (10.31%; Central Intelligence Agency, 2018). This age distribution is outlined to provide context for the data analysis explained later in this chapter. This study's data set included a total of 596 participants with 291 participants classified under the control group and 305 participants classified under the intervention group. The data set was able to establish a representative sample to address the four RQs as it exceeded the minimum sample size of 143.

Data Inclusion

This study included data only on males and females deemed as the main caregiver in the home environment and identified as the person responsible for disciplining the child or children. Family connectedness and extended family members living under the same household is customary in the Grenadian and Caribbean culture (Taylor, Forysthe-

Brown, Lincoln, & Chatters, 2017), and it is customary for children to be watched after by multiple family members.

Data Exclusion

During the pretest period, all participants should have had at least one child under the age of 3 years old and been actively enrolled in the RCP. The main exclusion indicator was if the child was older than 3 years old at the time of the posttest as the focus of this study was on Grenadian children aged 0 to 3 years.

Categorization of Variables and Fidelity of Statistical Tests

For this study's data analysis, I used chi-square tests to answer the first three RQs and binomial regression to answer the fourth RQ. RQs 1, 2, and 3 all inquire about associations between an independent variable and a dependent variable; therefore, chi-square was used as the primary statistical test for these three RQs. All three RQs had a dependent variable of use of corporal punishment (nominal), and the independent variables were parental educational attainment (ordinal; RQ1), parental marital status (nominal; RQ2), and parental monthly income (ordinal; RQ3). RQ4 concerned whether there was an impact and a probability of an event occurring between an independent variable and a dependent variable; therefore, binomial regression was used as the primary statistical test for RQ4. RQ4's dependent variable was the same use of corporal punishment (nominal), and the independent variable was enrollment in culturally sensitive parenting counseling (nominal). Parental educational attainment, parental marital status, and parental monthly income were included in RQ4 to assess whether any of these characteristics were statistically significant to parental experience in culturally

sensitive parenting counseling. Table 2 shows a visual representation of the categorization of variables used for this study's four RQs.

Table 2

Variable Definition and Measurement Scale

Variable label	Variable Name	Measurement scale	Value	Definition
GROUP	Type of Group	Ordinal	1 2	Control Intervention
PARENT_EDUCATION	Parental educational attainment	Ordinal	1 2 3	Primary Secondary Tertiary
PARENT_MARITAL_MC	Parental marital status – Married or Common-law	Nominal	0 1	No Yes
PARENT_INCOME	Parental monthly income (EC$)	Ordinal	1 2 3 4	$500 and below $501 - $1,000 $1,001 - $2,000 $2,000 and above
USE_CP	Use of corporal punishment in home environment	Nominal	0 1	No Yes

Descriptive Statistics

The target population for this study was all the registered parents enrolled in the RCP during 2015-2016 with at least one child under the age of three years old. Descriptive statistics were run for this quasi-experimental, quantitative study using

secondary data from SBG data set for the above target population and time duration. The size of the sample analyzed for this study was $n = 596$. This study's participant population was split approximately in half in an effort to show equal representation between the control group ($n= 291$) and intervention group ($n=305$). During the RCP registration process, parents were asked general parental and household demographic baseline questions for SBG to better tailor the cultural sensitive parenting counseling to the target population. Parents were able to opt out of answering any of the questions due to the sensitive and personal nature of some of the questions especially regarding socio-economic variables.

In regards to gender, female parents ($n = 265$) were predominantly the main caregiver compared to male parents ($n = 117$) responsible to childrearing specifically related to handling child discipline as displayed in Table 3.

Table 3

Parent Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	265	44.5	69.4	69.4
	Male	117	19.6	30.6	100.0
	Total	382	64.1	100.0	
Missing	System	214	35.9		
Total		596	100.0		

Parental age data was separated into five categories which indicated the majority of parents were 25 years and older. The most predominant age group was parents over 38 years old at 41.3% ($n = 164$), followed by parents aged between 25-30 years at 25.9% (*n*

= 103), parents aged between 31-38 years at 23.2% (*n* = 23.2%), and lastly, parents aged 24 year and younger at 9.6% (*n* = 38) (Table 4).

Table 4

Parent Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Under 18	2	.3	.5	.5
	18-24	36	6.0	9.1	9.6
	25-30	103	17.3	25.9	35.5
	31-38	92	15.4	23.2	58.7
	Over 38	164	27.5	41.3	100.0
	Total	397	66.6	100.0	
Missing	System	199	33.4		
Total		596	100.0		

Household occupancy data was collected as baseline information to better inform parental monthly income data and how these funds would be distributed throughout the number of persons within a single household. Total number of children in a household, number of children aged three years and younger, and current pregnancies were collected to provide a holistic account for household occupancy (Table 5).

Table 5

Household Occupancy Statistics

		Number of children in household	Number of children in household under the age of three (3) years old	Are you or your partner currently pregnant?
N	Valid	389	361	363
	Missing	207	235	233
Mean		3.92	1.17	.10
Median		3.00	1.00	.00

Mode	2	1	0
Range	16	5	1
Sum	1526	424	35

Number of children ranged greatly from a pregnant female to 16 children with approximately 22.9% (*n* = 89) households had two children followed by 16.2% (*n* = 63) households with three children (*n* = 63) (Table 6).

Table 6

Number of Children in Household

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	1	.2	.3	.3
	1	53	8.9	13.6	13.9
	2	89	14.9	22.9	36.8
	3	63	10.6	16.2	53.0
	4	53	8.9	13.6	66.6
	5	37	6.2	9.5	76.1
	6	30	5.0	7.7	83.8
	7	25	4.2	6.4	90.2
	8	14	2.3	3.6	93.8
	9	14	2.3	3.6	97.4
	10	4	.7	1.0	98.5
	11	1	.2	.3	98.7
	12	3	.5	.8	99.5
	13	1	.2	.3	99.7
	16	1	.2	.3	100.0
	Total	389	65.3	100.0	
Missing	System	207	34.7		
Total		596	100.0		

As the study focused on parents with children three years and younger, it was noteworthy to inquire the frequency of children under the age of three years in the household with the

overwhelming majority of 67.7% (*n* = 244) accounted for one child followed by 20.8% (*n* = 75) with two children (Table 7). Parents indicating zero children in the household under the age of three were 9.1% (*n* = 35) accounted for data collected on females currently pregnant and interested in participating the RCP once their child was delivered (Table 8).

Table 7

Number of Children in Household under the Age of Three (3) Years Old

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	33	5.5	9.1	9.1
	1	244	40.9	67.6	76.7
	2	75	12.6	20.8	97.5
	3	7	1.2	1.9	99.4
	4	1	.2	.3	99.7
	5	1	.2	.3	100.0
	Total	361	60.6	100.0	
Missing	System	235	39.4		
Total		596	100.0		

Table 8

Currently Pregnant

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	328	55.0	90.4	90.4
	Yes	35	5.9	9.6	100.0
	Total	363	60.9	100.0	
Missing	System	233	39.1		
Total		596	100.0		

Religion affiliation data was collected due to the immense influence it has on Caribbean culture, childrearing and society at large particularly under the context of the SEM (Roopnarine & Jin, 2016; Pulis, 2014; Dede Yildirim, 2013). An overwhelming majority of 89% (*n* = 349) identified as a religious person (Table 9). The most prevalent religion affiliations were Roman Catholic at 33.1% (*n* = 115), Pentecostal at 19.6% (*n* = 68), and Seventh Day Adventist at 14.7% (*n* = 51) (Table 10).

Table 9

Self-Identify as Religious Person

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	43	7.2	11.0	11.0
	Yes	349	58.6	89.0	100.0
	Total	392	65.8	100.0	
Missing	System	204	34.2		
Total		596	100.0		

Table 10

Religion Affiliation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	NA/Not religious	49	8.2	14.1	14.1
	Roman Catholic	115	19.3	33.1	47.3
	Protestant	1	.2	.3	47.6
	Church of God	12	2.0	3.5	51.0
	Seventh Day Adventist	51	8.6	14.7	65.7
	Pentecostal	68	11.4	19.6	85.3
	Anglican	14	2.3	4.0	89.3
	Jehovah Witness	4	.7	1.2	90.5
	Evangelist	6	1.0	1.7	92.2
	Independent Baptist	7	1.2	2.0	94.2

	Christianity	6	1.0	1.7	96.0
	Presbyterian	1	.2	.3	96.3
	Islam	1	.2	.3	96.5
	Other	12	2.0	3.5	100.0
	Total	347	58.2	100.0	
Missing	System	249	41.8		
Total		596	100.0		

Table 11 focused solely on parental educational attainment (*n* = 385) with primary educational attainment at 52.7% (*n* = 203), secondary educational attainment at 36.9% (*n* = 142), and tertiary educational attainment at 10.4% (*n* = 40). Over half of the parents (*n* = 203) reported they received a primary school education as their highest attainment which in Grenada would be Grade 6 with approximate age of students at 11 years old. Primary school consists of pre-kindergarten, kindergarten, and grades one through six followed with a primary exit assessment for placement into secondary school. Approximately 37% of parents (*n* = 142) reported they received a secondary school education as their highest attainment which in Grenada would be Form 5 with approximate age of students at 16 years old. Secondary school consists of five years and students select subjects to focus on for their final year Caribbean Examination Council (CXC) exams. A limited amount of parents (*n* = 40) reported they received a tertiary school which would be classified as either attended or graduated from T. A. Marryshow Community College or a local or foreign four year university.

Table 11

Parental Educational Attainment

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Primary	203	34.1	52.7	52.7
	Secondary	142	23.8	36.9	89.6
	Tertiary	40	6.7	10.4	100.0
	Total	385	64.6	100.0	
Missing	System	211	35.4		
Total		596	100.0		

Table 12 focused solely on parental marital status (n = 375) with 52.5% (n = 197) reported as being in a relationship, married or common-law, and 47.5% (n = 178) reported being single. Parental marital status of this study's population was split approximately in half on this variable.

Table 12

Parental Marital Status (Married or Common-law relationship)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	178	29.9	47.5	47.5
	Yes	197	33.1	52.5	100.0
	Total	375	62.9	100.0	
Missing	System	221	37.1		
Total		596	100.0		

Table 13 focused solely on parental monthly income (n = 337) with income calculated in EC dollars (i.e. US$ 1.00 = EC$ 2.67). The predominant category was 49.6% of parents (n = 167) who reported monthly income of EC$500-1,000 followed by 30% of parents (n = 101) reported monthly income of EC$500 or below. These figures illustrated that

79.6% of this study's population have a household monthly income of less than US$375.00. A small selection of parents (12.8%) reported monthly income of EC$1,001-2,000 and only a mere 7.7% reported they monthly earned in the highest category's range of EC$2,000 and above.

Table 13

Parental Monthly Income

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	500	101	16.9	30.0	30.0
	500-1000	167	28.0	49.6	79.5
	1001-2000	43	7.2	12.8	92.3
	2000 and up	26	4.4	7.7	100.0
	Total	337	56.5	100.0	
Missing	System	259	43.5		
Total		596	100.0		

Results

I used two statistical tests to address this study's four RQs. The chi-square test for association served as the primary statistical test for RQs 1, 2, and 3 as it tested for any possible association between the dependent (i.e. use of corporal punishment) and independent variables (i.e. parental educational attainment (RQ1), parental marital status (RQ2), parental monthly income(RQ3)). The chi-square test's two main assumptions are the two variables must be categorical data (i.e. nominal or ordinal level) and the two variables must include two or more categorical groups (Laerd Statistics, 2018b). The dependent variable for RQs 1, 2, and 3 was categorized as nominal, and all three independent variables were either categorized as nominal or ordinal with either two or

more categorical groups thus assumptions were met. The second statistical test used was the binomial logistic regression for RQ4 as it tested if there was a probability parental enrollment in the culturally sensitive parenting counseling (i.e. independent variable) impacted the use of corporal punishment (i.e. dependent variable). Binomial logistic regression has four assumptions: the scale for the dependent variable scale should measure dichotomous, data should not have outliers, there should be no multicollinearity amongst the predictors, and the data set should have a larger sample size (Tabachnick & Fidell, 2012). The assumptions for RQ4 were met.

Research Question 1

RQ1 and its corresponding hypotheses were as follows:

(RQ1): Is there an association between parental educational attainment and the use of corporal punishment in the home environment?

H_o1: There is no association between parental educational attainment and the use of corporal punishment in the home environment.

H_a1: There is an association between parental educational attainment and the use of corporal punishment in the home environment.

RQ1's independent variable was parental educational attainment and dependent variable was use of corporal punishment in the home environment. The predictor variable of parental educational attainment's categories were as follows: 1 = *primary level*, 2 = *secondary level*, and 3 = *tertiary level*. With a sample size of $n = 359$, a chi-square test for association with a corresponding cross tabulation were conducted on this categorical data as shown in Table 14. The results of the chi-square analysis disclosed a non-

significant association between parental educational attainment and use of corporal punishment [$\chi 2(2, n = 359) = 0.97, p = 0.62$] (Walden University, 2019). Thus, I conclude that there is no statistically significant association between parental educational attainment and use of corporal punishment, and the null hypothesis that there was an association between parental education attainment and the use of corporal punishment in the home environment cannot be rejected.

Table 14

Cross Tabulations and Chi-square Results for Use of Corporal Punishment by Parental Educational Attainment

Parental Education Attainment	Use of Corporal Punishment in Home Environment			X^2	*df*	*p*
	No	Yes	Total			
Primary	32	158	190	0.969	2	0.616
Secondary	17	115	132			
Tertiary	6	31	37			
Total	55	304	359			

Research Question 2

RQ2 and its corresponding hypotheses were as follows:

RQ2: Is there an association between parental marital status and the use of corporal punishment in the home environment?

H_o2: There is no association between parental marital status and the use of corporal punishment in the home environment.

H_a2: There is an association between parental marital status and the use of corporal punishment in the home environment.

RQ2's independent variable was parental marital status and dependent variable was use of corporal punishment. The predictor variable of parental marital status' categories were as follows: 0 = *single*, 1 = *married/common-law*. With a sample size of $n = 349$, a chi-square test for association with a corresponding cross tabulation were conducted on this categorical data as shown in Table 15. The results of the chi-square analysis disclosed a non-significant association between parental marital status and use of corporal punishment [$\chi 2(1, n = 349) = 3.00, p = 0.08$] (Walden University, 2019). Thus, I conclude that there is no statistically significant association between parental marital status and use of corporal punishment, and the null hypothesis that there was an association between parental marital status and the use of corporal punishment in the home environment cannot be rejected.

Table 15

Cross Tabulations and Chi-square Results for Use of Corporal Punishment by Parental Marital Status

Parental Marital Status	Use of Corporal Punishment in Home Environment			X^2	*df*	*p*
	No	Yes	Total			
Single	21	139	160	3.006	1	0.083
Married/Common-law	38	151	189			
Total	59	290	349			

Research Question 3

RQ3 and its corresponding hypotheses were as follows:

RQ3: Is there an association between parental monthly income and the use of corporal punishment in the home environment?

H_o2: There is no association between parental monthly income and the use of corporal punishment in the home environment.

H_a2: There is an association between parental monthly income and the use of corporal punishment in the home environment.

RQ3's independent variable was parental monthly income and dependent variable was use of corporal punishment. The predictor variable of parental monthly income's categories in EC dollars were as follows: 1 = *$500 and below*, 2 = *$501-1,000*, 3 = *$1,001-2,000*, 4 = *$2,001 and above*. With a sample size of 317, a chi-square test for association with a corresponding cross tabulation were conducted on this categorical data as shown in Table 16. The results of the chi-square analysis disclosed a non-significant association between parental monthly income and use of corporal punishment [$\chi 2(3, n = 317) = 1.53, p = 0.68$] (Walden University, 2019). Thus, I conclude that there is no statistically significant association between parental monthly income and use of corporal punishment, and the null hypothesis that there was an association between parental monthly income and the use of corporal punishment in the home environment cannot be rejected.

Table 16

Cross Tabulations and Chi-square Results for Use of Corporal Punishment by Parental Monthly Income

Parental Monthly Income	Use of Corporal Punishment in Home Environment			X^2	*df*	*p*
	No	Yes	Total			
$500 and below	13	81	94	1.526	3	0.676
$501 - 1,000	27	131	158			
$1,001 - $2,000	7	34	41			
$2,001 and above	2	22	24			
Total	49	268	317			

Research Question 4

RQ4 and its corresponding hypotheses were as follows:

RQ4: Did the parental enrollment in the culturally sensitive parenting counseling impact the use of corporal punishment in the home environment?

H_o4: There is no impact in the use of corporal punishment in the home environment after enrollment in the culturally sensitive parenting counseling.

H_a4: There is an impact in the use of corporal punishment in the home environment after enrollment in the culturally sensitive parenting counseling.

RQ4's independent variable was parental enrollment in culturally sensitive parenting counseling and dependent variable was use of corporal punishment. A binary logistic regression analysis was conducted to investigate if parental enrollment in the culturally sensitive parenting counseling impacted the use of corporal punishment in the home environment. The Hosmer-Lemeshow goodness-of-fit was significant ($p = .000$) indicating the model is correctly specified. Additionally, the [*-2 log Likelihood* =

330.883], [*Cox & Snell R square* = .007] and the [*Nagelkerke R squared* = .011]. The unstandardized *B* = [.447], *SE* = [.284], *Wald* = [2.485], *Exp (B)* = [1.564], *p* = .000, 95% C.I. (.897, 2.727) (Table 17). The Omnibus Tests of Model Coefficients tested the variance [$\chi 2(1, n = 376) = 2.521$, p = 0.015]. This binomial regression established the intervention group's parental enrollment in the culturally sensitive parenting counseling impacted their use of corporal punishment in the home environment. The null hypothesis that there was an impact in the use of corporal punishment in the home environment after enrollment in the culturally sensitive parenting counseling can be rejected.

Table 17

Logistic Regression Predicting Use of Corporal Punishment Based on Parental Enrollment in Culturally Sensitive Parenting Counseling

						95% C.I.for EXP (B)	
B	S.E.	Wald	df	Sig.	Exp(B)	Lower	Upper
.447	.284	2.485	1	.015	1.564	.897	2.727

Multiple logistic regression analysis was conducted to determine whether the association between corporal punishment and culturally sensitive education remained, even after controlling for covariates. The covariates of interest included parental education attainment, parental marital status, parental monthly income, and parental enrollment in the culturally sensitive parenting counseling. The Hosmer-Lemeshow goodness-of-fit was not significant ($p > .05$) indicating the model is correctly specified.

The model provided evidence that the culturally sensitive education was borderline statistically significant after controlling for the covariates mentioned above. However, parental marital status remained statistically significant despite the inclusion of the other covariates (p = 0.018) (Table 18). Controlling for *parental education attainment, parental marital status* and *parental monthly income*, the predictor variable, parental enrollment in culturally sensitive parenting counseling in the logistic regression analysis was found to contribute to the model (Walden University, 2019). The Omnibus Tests of Model Coefficients tested the variance [$\chi 2(7, n = 282) = 10.573$, p = 0.158].

Table 18

Multiple Logistic Regression Summary Table

	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I.for EXP(B)	
							Lower	Upper
Parental educational attainment level - Primary			.638	2	.727			
Parental educational attainment level - Secondary	-.129	.559	.053	1	.818	.879	.294	2.628
Parental educational attainment level - Teritary	.159	.584	.075	1	.785	1.173	.374	3.682
Parental marital status - Married or Commonlaw relationship	.866	.367	5.589	1	.018	2.379	1.160	4.878
Parental monthly income - $500 EC and under			1.375	3	.711			
Parental monthly income - $500-1,000 EC	-.782	.819	.912	1	.340	.458	.092	2.277
Parental monthly income - $1,001-2,000 EC	-.906	.778	1.358	1	.244	.404	.088	1.855
Parental monthly income - $2,001 EC and above	-.818	.859	.906	1	.341	.441	.082	2.377
Intervention Group	-.585	.341	2.950	1	.086	.557	.286	1.086
Constant	2.453	.905	7.350	1	.007	11.619		

Additional Statistical Test

In conducting the data analysis for this study, an additional statistical test of hypothesis emerged from the analysis of the four main RQs. Although the data for RQ 1, 2, and 3 were concluded to not be statistically significant, parental age was determined to be statistically significant ($p > 0.05$) in association to the use of corporal punishment in the home environment. The predictor variable of parental age's categories were as follows: 1 = *Under 18*, 2 = *18-24*, 3 = *25-30*, 4 = *31-38*, 5 = *Over 38*. With a sample size

of 370, a chi-square test for association with a corresponding cross tabulation was conducted on this categorical data as shown in Table 19. The results of the chi-square analysis disclosed a significant association between parental age and use of corporal punishment [$\chi 2(4, n = 370) = 14.051$, $p = 0.007$] (Walden University, 2019). This data analysis showcased the older the parent is in age, the more likely he or she will use corporal punishment in the home environment.

Table 19

Cross Tabulations and Chi-square Results for Use of Corporal Punishment by Parental Age

Parental Age	Use of Corporal Punishment in Home Environment			X^2	*df*	*p*
	No	Yes	Total			
Under 18	1	1	2	14.051	4	0.007
18 - 24	11	23	34			
25 - 30	14	77	91			
31 - 38	6	80	86			
Over 38	25	132	157			
Total	57	313	370			

Summary

This chapter included the results from the secondary data analysis of the demographic statistics and parental responses of the ACP instrument (see Appendix A) from the 2015-2016 SBG data set. Chi-square test for association and binomial regression were the two statistical tests applied in order to make the following determinations: (a) in RQ1, chi-square test results were not statistically significant

regarding the association between parental educational attainment and the use of corporal punishment in the home environment; (b) in RQ2, chi-square test results were not statistically significant regarding the association between parental marital status and the use of corporal punishment in the home environment; (c) in RQ3, chi-square test results were not statistically significant regarding the association between parental monthly income and the use of corporal punishment in the home environment; (d) in RQ4, binomial regression results highlighted that parental enrollment in the culturally sensitive parenting counseling had a borderline impact on the use of corporal punishment in the home environment. Marital status was statistically significantly associated with the use of corporal punishment in the home; and (e) additional statistical analysis using chi-square test verified a statistically significant association between parental age and use of corporal punishment in the home environment.

Chapter 5 will discuss a summarization of the results, interpretation of this study's findings, limitations, recommendations for future research, and describe positive social change implications.

Chapter 5: Discussion, Conclusion, and Recommendations

Introduction

The purpose of this quantitative study was to examine the impact of exposure to culturally sensitive parenting counseling on the usage of corporal punishment by parents enrolled in the RCP in Grenada with young children aged 0 to 3 years old. This study had a cross-sectional design which included secondary data collected by SBG in 2015-2016 with the assistance of community-based Roving Caregivers. I studied socioeconomic elements of parental educational attainment, parental marital status, and parental monthly income to assess if these independent variables had any association with the use of corporal punishment in the home environment with the same population. My rationale for undertaking this study was to provide information to public health researchers and community health workers on the implications of culturally sensitive parenting counseling for how Grenadian parents discipline their children and, more broadly, the importance of ECD at each layer of society.

Data analysis of the secondary data revealed that there was no statistically significant association between the independent variables of parental education attainment, parental marital status, and parental monthly income with the dependent variable of use of corporal punishment in the home environment. Pre- and postdata analysis of the intervention group revealed that parental enrollment in culturally sensitive parenting counseling impacted parents' use of corporal punishment in the home environment. Additional statistical interpretation exposed that there was a statistically significant association between parental age and the use of corporal punishment in the

home environment. The RQs and corresponding hypotheses were analyzed using the SEM, which was the theoretical framework for this study.

Interpretation of the Findings

Table 20 includes a summary of the data results for each RQ and hypothesis.

Table 20

Summary of Results of Hypothesis Testing

Research Question	Hypothesis	Accept/Reject
RQ1: Is there an association between parental educational attainment and the use of corporal punishment in the home environment?	H_o1: There is no association between parental educational attainment and the use of corporal punishment in the home environment.	Accept
	H_a1: There is an association between parental educational attainment and the use of corporal punishment in the home environment.	Reject
RQ2: Is there an association between parental marital status and the use of corporal punishment in the home environment?	H_o2: There is no association between parental marital status and the use of corporal punishment in the home environment.	Accept
	H_a2: There is an association between parental marital status and the use of corporal punishment in the home environment.	Reject
RQ3: Is there an association between parental monthly income and the use of corporal punishment in the home environment?	H_o3: There is no association between parental monthly income and the use of corporal punishment in the home environment.	Accept
	H_a3: There is an association between parental monthly income and the use of corporal punishment in the home environment.	Reject

RQ4: Did the parental enrollment in the culturally sensitive parenting counseling impact the use of corporal punishment in the home environment?	H_o4: There is no impact in the use of corporal punishment in the home environment after enrollment in the culturally sensitive parenting counseling.	Reject
	H_a4: There is an impact in the use of corporal punishment in the home environment after enrollment in the culturally sensitive parenting counseling.	Accept
Additional test: Is there an association between parental age and the use of corporal punishment in the home environment?	H_o5: There is no association between parental education attainment and the use of corporal punishment in the home environment.	Reject
	H_a5: There is an association between parental education attainment and the use of corporal punishment in the home environment.	Accept

The hypothesis of parental socioeconomic variables affecting usage of corporal punishment in the home environment, especially in LMICs, was well supported in the peer-reviewed literature described in Chapter 2. In the Caribbean, corporal punishment has been both consciously and unconsciously integrated into societal norms and policy, cultural practices, and attitudes and behaviors due to the region's violent and forced history of colonial rule and oppression (Rooparine & Jin, 2016). This notion of corporal punishment's environmental variables influenced by multiple layers of society (individual, interpersonal, community, organizational, policy) is based on and supported by the SEM theoretical framework set forth by Bronfenbremner (1979), Stokols (1992, 1996), and McLeroy et al. (1998). The SEM's emphasis on health behaviors being

multifaceted acknowledges that societal norms and individual knowledge, attitudes, and behaviors are the center of a societal system's ability to engage in behavior change and health promotion interventions (Golden et al., 2015). The significance culture has in parenting and child discipline methods is embodied in the approach for culturally sensitive parenting counseling, which had a positive impact ($p = 0.000$) on reducing the use of corporal punishment in the home environment. Many well-intended public health interventions are executed in LMICs only to fail and lack momentum and sustainability once the funding finishes; according to experts, a key reason is that public health officials do not have the resources to ensure that their programs feature cultural sensitivity and cultural competence, both of which are required for ideal participant understanding and ownership of said behavior change intervention (Boydell, Nalukenge, Siu, Seeley, & Wight, 2017; López, Hoferik, Bumgarner, & Taylor, 2017).

The existing literature on ECD and ACEs established that children living in poverty or low socioeconomic conditions, often in LMICs, are more likely to be exposed to corporal punishment, neglect, and child maltreatment (Conger et al., 2010; Taylor-Robinson et al., 2018; Zeanah et al., 2018). The literature explicates how low SES continues to be negatively correlated with ECD in all regions of the world (Black et al., 2017; Friedson, 2016; Hugh et al., 2017; Leonard et al., 2017; Lo et al., 2016); however, in this study, there were no statistically significant associations between parental educational attainment, parental marital status, and parental monthly income with parental usage of corporal punishment in the home environment. A possible explanation, which is congruent with the SEM model, is that the practice of corporal punishment has

been well integrated into each environmental level (Röhrs, 2017) as this attitude and behavior has been a cultural cycle of generational violence in Grenadian and Caribbean households (Landon et al., 2017; Rooparine & Jin, 2016). The SES of the parents enrolled in the RCP varied, which alludes to the entrenched resilience some parents have in how they raise their children and adapt to adversity (Bethell et al., 2017; Wray, 2015). This study's secondary data on parental educational attainment, parental marital status, and parental monthly income based in Grenada disconfirmed findings from the existing literature on ACEs, SES, and poor health outcomes regarding corporal punishment in other geographically regions and cultures. More recent country- and region-specific peer-reviewed research on socioeconomic variables and the usage of corporal punishment would assist in gaining more knowledge and cultural perspective on this parenting discipline method.

Interestingly, an independent variable that was not included in the initial analysis for this study, parental age, resulted in a statistically significant association ($p = 0.007$) to parental usage of corporal punishment in the home environment. An overwhelming amount of literature on corporal punishment and ACEs states single, poor, uneducated mothers are more likely to be un-nurturing, have toxic stress, exhibit low self-regulating skills by using corporal punishment as their main discipline method (Racine et al., 2018; Folger et al., 2018; Madigan et al., 2017; Ma et al., 2018). Additional research highlights that younger mothers tend to be more inclined to use more severe corporal punishment due to the reasons stated above in comparison to older, more mature mothers (duRivage et al., 2015; Jacobs et al., 2016; Lee, 2009). However, in this study's case, older mothers,

especially in the age range of 38 years and older, were 13 times more likely to use corporal punishment in comparison to younger mothers in the same RCP. A possible assumption for this again lies in cultural practices in that these older mothers would most likely have been recipients of corporal punishment as children and were not exposed to parenting programs like RCP when they first started having their children.

Teenage pregnancy has decreased in the last decade in Grenada (PAHO, n. d.) reducing the amount of babies born to low-income, low-educated, and unstable households. The younger Grenadian mothers were more likely to be engaged in ECD programs as children, whether from RCP, Ministry of Social Development's "Positive Parenting" programs, or Child Protection Agency's educational awareness campaigns. In addition, the Programme for Adolescent Mothers (PAM)., a two-year academic program established in 1995 for adolescent mothers, has provided an integrated educational curriculum to young girls aged 11 to 20 years old (PAM, 2018). Their curriculum includes life skills, family and health planning, skills and academic training and have graduated over 500 young mothers in a concerted effort to ensure they continue their education, be contributing members of society, and prevent subsequent unplanned pregnancies (PAM, 2018). These types of community-based parenting programs, based on public health prevention models, could all contribute to a recent societal shift in that younger mothers enrolled in the RCP were more susceptible to integrate the Conscious Discipline curriculum and decrease their frequency of corporal punishment usage.

Limitations of the Study

For this study, I used secondary data from the SBG 2015-2016 data set which included a massive amount of data on other instruments collected at the same time of the parental demographic information and ACP questionnaire parental responses. The other instruments used in the larger SBG 2015-2016 data set are as follows: Confusion, Hubbub, and Order Scale (CHAOS), Conscious Discipline Fidelity Assessment, Infant and Toddler Neurodevelopment Assessment: Intergrowth – 21st Neurodevelopment Assessment (INTER-NDA), General Health Questionnaire, Home Observation for Measurement of the Environment, Infant-Toddler version (HOME-IT), Parent-Child Attachment Questionnaire, and the United States Department of Agriculture's Adult Food Security Survey Model (Saving Brains, 2015). I believe using this extensive amount of surveys at the same time could have aided in respondent burden, specifically in cognitive and time burden (Wenemark, Frisman, Svensson, & Kristenson, 2010). Participants could have felt overwhelmed with the amount of surveys especially ones regarding personal, intimate, and private information. Due to this, participants could have experienced respondent burden due to the survey's perceived burden, length, frequency, effort, sensitivity, and invasiveness which resulted in missing data in specific areas of the survey (Fricker, 2016). Even though each RQ's sample size well-exceeded the minimum of 143 participants and was able to pass external validity, there was missing data that could have aided in a more precise data analysis.

Participants were given the option to not respond to any question, either for the demographic information or on the ACP, which could have also assisted in missing data.

I am unsure if participants in every case were asked verbally for all the answers to each instrument or if some were distributed on hard copy. For parents that might be low-literacy, distributing solely hard copy surveys would increase respondent burden. SBG's data set was from 2015 and as a result, the data results and analysis of this study might not mirror the current RCP parents' SES, attitudes and behaviors towards usage of corporal punishment in the Grenadian home environment.

Recommendations

Even though parental educational attainment and parental monthly income were not statistically significant in association with the use of corporal punishment in the home environment, this study emphasized how these two specific socioeconomic variables could drastically be improved for this target population. For parental educational attainment, 52.7% of parents have a basic education at the primary level. With this limited amount of education, parents are limited in the academic support and guidance they can provide for their own children's homework and studies once it advances past their competency and comfortability levels (Ghanney, 2018). For parental monthly income, 30% of parents have a household income of EC$500 or under which is logical as Grenada has the highest incidence of extreme poverty (37.7%) in the entire Eastern Caribbean (United Nations Development Programme, 2019). These staggering statistics unveil the dire need for economic stability, adult classes, trainings in skill-oriented professions and entrepreneurship in order to improve the living standard and quality of life for not only this target population but for all Grenadians.

Specifically in regards to parental usage of corporal punishment and child maltreatment, stakeholders from each level of society need to collaborate on a holistic, integrated preventative public health initiative as to how to continue this cultural shift in child-rearing and discipline. This study showcased that a short-term, culturally sensitive parenting counseling was able to actually make an impact in generational cycles of home violence in Grenada. This means that actual change is occurring and can continue but only if it is tackled from all angles from society. Stakeholders from the faith-based organizations will be pivotal in dispelling the "spare the rod, spoil the child" mantra that so many parishioners have been programmed to believe and in turn, behave. Without alterations at the policy level, positive social change will be threatened as this type of child maltreatment can continue to occur without consequences.

In order for persons to engage in sustainable behavior change, they must be able to trust that the alternative will be effective. It is unfair and unethical to expect different results in childrearing and ECD from parents that do not possess the knowledge and skills for positive behavior change. Therefore, RCP and SBG must continue their efforts in community-based educational awareness and health promotion to enhance ECD for the nation's children and sequentially, assist in reducing the frequency of ACEs experienced by all of the nation's children especially the vulnerable. An understanding and buy-in on improving individuals' social determinants of health not only enhances his or her life but if executed correctly using the SEM as a template, it can enhance the entire country's health outcomes for future generations.

Implications

This study's data results and analysis will be shared with the Government of Grenada, particularly with the Ministries of Social Development, Education, Health, and Youth. Governmental engagement and collaboration can potentially have enormous positive social change implications to how the next generation of Grenadian children are raised and what they are exposed to. Grenada is currently struggling with child maltreatment and abuse, especially sexual abuse (United Nations Development Programme, 2019), and it is paramount that an urgent transformation occurs on how its citizens are protecting and looking after its children. This change is imperative to ensure that the nation's children of today do not make this disregard for child rights and well-being a societal norm only to increase its severity and destruction when they become adults and parents in the future.

This research can aid in the understanding of how critical the history of colonialism rule and violence in the Caribbean impacts generational childrearing in the West Indian family context. This knowledge is intended to empower community health workers to promote culturally sensitive parenting counseling at multiple levels of society in order for it to be integrated as a healthier and safer method of child-rearing at a sustainable level, especially for low socioeconomic families in Grenada. This study exposed the need for more extensive research to be conducted at the country and regional level to provide a more accurate cultural context to public health approaches to issues such as child maltreatment, ECD, and ACEs. Positive social change is currently taking

place and it is each and every individual's responsibility to contribute to its growth and evolution.

Conclusion

No longer is it moral acceptable to continuously revert to the comfort zone of "culture" to justify using unhealthy, damaging, and ineffective child discipline methods when global citizens are exposed to knowledge on the destructive effects home violence has on child and adult health outcomes. Culture is an ever-growing, ever-expanding entity that has the ability to positively evolve in subsequent generations while detaching from past harmful beliefs and practices (Creanza, Kolodny, & Feldman, 2017). This societal shift is so much larger than simply not hitting children out of frustration, anger, power and control. An open mindset to alternative child discipline methods, which are catered to the Grenadian societal norms, can provide a similar safety net for parents as they will receive effective tools and self-regulation techniques to discipline their children, instill healthy action-consequence tactics, and increase parent-child attachment. As individuals, families, communities. organizations, and a society, we must realign our values and actions to portray hope and strength rather than fear and shame.

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Appendix A: Attitudes Towards Corporal Punishment Instrument

Attitudes toward Corporal Punishment

1.) What methods do you currently use to get your child to behave?

a) _____

b) _____

c) _____

d) _____

e) _____

f) _____

2.) Which of the listed methods has the most effect on your child's behaviour?

_____

3.) Have you ever smacked/beaten your child? YES NO

If yes, how recently? ___ Last week ___ Last month ___ Last 6 months ___ Last year

4.) Please indicate in which circumstances, if any, you have smacked/beaten your child or children in the past year.

a) _____

b) _____

c) _____

d) _____

5.) From this list, which of the following statements comes closest to your personal opinion on smacking/beating your child or children?

a) I think it is always wrong to smack/beat a child, and I won't do it

b) I don't like the idea of smacking/beating a child, but I will do it if nothing else works

c) I'm comfortable with the idea of smacking/beating a child and will do it when I think it's necessary

d) I believe that if you spare the rod, you spoil the child

e) I don't know

6.) Please rate how much you agree or disagree with each of the following statements using the scale provided below.

Strongly Agree	Tend to Agree	Neither agree nor disagree	Tend to disagree	Strongly disagree
1	2	3	4	5

a) Only bad parents smack/beat their children _____

b) Smacking/beating a child is as unacceptable as hitting an adult _____

c) Smacking/beating is a good way of teaching children right from wrong _____

d) The law should allow parents to smack/beat their children _____

e) There is a big difference between smacking/beating a child and physically abusing a child _____

f) There should be a complete ban on parents smacking/beating their children, even as a punishment _____

g) It is sometimes necessary to smack/beat a naughty child _____

7.) Would you support a law that that made it illegal for parents to use corporal punishment to discipline their children? YES NO

8.) Should schools be allowed to use corporal punishment to discipline students?
YES NO

9.) Is corporal punishment an effective method of disciplining a child? YES NO

10.) Does corporal punishment lead to the development of good character? YES NO

11.) Does corporal punishment help build respect for authority figures? YES NO

12.) Does corporal punishment help children become successful adults? YES NO

13.) Does corporal punishment work better than other disciplinary methods that do not involve physical pain? YES NO

14.) In the time since your current child (who is part of the study) was born, were you:

a) Often pushed, grabbed, slapped, or had something thrown at you? YES NO

b) Sometimes kicked, bitten, hit with a fist, or hit with something hard? YES NO

c) Ever repeatedly hit over a few minutes or threatened with a gun or knife? YES NO

15.) Do you consider yourself to be a religious person? YES NO

16.) What religion do you follow? _____ or NOT APPLICABLE

Appendix B: St. George's University Institutional Review Board Exemption Letter

St. George's University

Institutional Review Board

26th August 2019

Lauren Orlando
Department of Educational Services
St. George's University

Re: Exemption of SGU IRB Application* 19034-*"Assessing the Effectiveness of Exposure to Culturally Sensitive Parenting Counseling on Early Child Development in Grenada"

Dear Ms. Orlando,

Your submitted application, for the above captioned research project, has been reviewed by the St. George's University Institutional Review Board (SGU IRB) and found to be exempt based on the use of de-identified secondary data from the 2015-2016 Saving Brains Grenada project to determine how public health interventions integrated at all levels in Grenadian society can achieve positive social change.

Sincerely,

Maira du Plessis
Chair, IRB
Instructor, Department of Anatomical Sciences

Appendix C: Walden University Institutional Review Board Approval Notification

IRB <irb@mail.waldenu.edu>
Tue 9/17/2019 6:06 PM
Lauren Orlando; Chinaro M. Kennedy

Dear Ms. Orlando,

This email is to notify you that the Institutional Review Board (IRB) confirms that your study entitled, "Assessing the Effectiveness of Exposure to Culturally Sensitive Parenting Counseling on Early Childhood Development in Grenada," meets Walden University's ethical standards. Our records indicate that you will be analyzing data provided to you by Saving Brains Grenada as collected under its oversight. Since this study will serve as a Walden doctoral capstone, the Walden IRB will oversee your capstone data analysis and results reporting. The IRB approval number for this study is 09-17-19-0471560.

This confirmation is contingent upon your adherence to the exact procedures described in the final version of the documents that have been submitted to IRB@mail.waldenu.edu as of this date. This includes maintaining your current status with the university and the oversight relationship is only valid while you are an actively enrolled student at Walden University. If you need to take a leave of absence or are otherwise unable to remain actively enrolled, this is suspended.

If you need to make any changes to your research staff or procedures, you must obtain IRB approval by submitting the IRB Request for Change in Procedures Form. You will receive confirmation with a status update of the request within 1 week of submitting the change request form and are not permitted to implement changes prior to receiving approval. Please note that Walden University does not accept responsibility or liability for research activities conducted without the IRB's approval, and the University will not accept or grant credit for student work that fails to comply with the policies and procedures related to ethical standards in research.

When you submitted your IRB materials, you made a commitment to communicate both discrete adverse events and general problems to the IRB within 1 week of their occurrence/realization. Failure to do so may result in invalidation of data, loss of academic credit, and/or loss of legal protections otherwise available to the researcher.

Both the Adverse Event Reporting form and Request for Change in Procedures form can be obtained at the Documents & FAQs section of the Walden web site: http://academicguides.waldenu.edu/researchcenter/orec

Researchers are expected to keep detailed records of their research activities (i.e., participant log sheets, completed consent forms, etc.) for the same period of time they retain the original data. If, in the future, you require copies of the originally submitted IRB materials, you may request them from Institutional Review Board.

Both students and faculty are invited to provide feedback on this IRB experience at the link below:

http://www.surveymonkey.com/s.aspx?sm=qHBJzkJMUx43pZegKlmdiQ_3d_3d

Sincerely,
Libby Munson
Research Ethics Support Specialist
Office of Research Ethics and Compliance
Walden University
100 Washington Avenue South, Suite 900
Minneapolis, MN 55401
Email: irb@mail.waldenu.edu

Appendix D: National Institutes of Health Certificate of Completion of Human Subjects Training

Certificate of Completion

The National Institutes of Health (NIH) Office of Extramural Research certifies that **Lauren Orlando** successfully completed the NIH Web-based training course "Protecting Human Research Participants".

Date of completion: 06/25/2016.

Certification Number: 2101685.